

GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: December 10, 2003, 18:12:09 ; Search time 22 Seconds  
(without alignment)  
2361.715 Million cell updates/sec

Title: US-09-661-016B-10  
Perfect score: 6515  
Sequence: 1 LITNRKNEINEINAVNSHA.....IGETEGFIVDSVELLMEE 1228

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 328717 seqs, 42310858 residues

Total number of hits satisfying chosen parameters: 328717

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Issued Patents AA.\*

- 1: /cgn2\_6/ptodata/1/iaa/5A\_COMB.pap.\*
- 2: /cgn2\_6/ptodata/1/iaa/5B\_COMB.pap.\*
- 3: /cgn2\_6/ptodata/1/iaa/6A\_COMB.pap.\*
- 4: /cgn2\_6/ptodata/1/iaa/6B\_COMB.pap.\*
- 5: /cgn2\_6/ptodata/1/iaa/PCTUS\_COMB.pap.\*
- 6: /cgn2\_6/ptodata/1/iaa/backfilea1.pap.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	6405	98.3	1207	1	US-07-951-715A-7
2	6405	98.3	1207	2	Sequence 7, Appli
3	6405	98.3	1207	3	Sequence 7, Appli
4	6405	98.3	1207	3	Sequence 7, Appli
5	6405	98.3	1207	3	Sequence 7, Appli
6	6405	98.3	1207	3	Sequence 8, Appli
7	6405	98.3	1207	4	US-09-053-549-8
8	6044.5	92.8	1227	3	US-09-547-422-7
9	5413.5	83.1	1229	1	US-08-053-549-2
10	5413.5	83.1	1229	1	US-08-100-709-4
11	5413.5	83.1	1229	1	US-08-176-865-4
12	5413.5	83.1	1229	1	US-08-474-038-4
13	5413.5	83.1	1229	2	US-08-779-046-4
14	5350.5	82.1	1227	1	US-08-881-340-4
15	5350.5	82.1	1227	3	US-08-448-170-8
16	4549	69.8	1186	3	US-08-961-803-9
17	3739	57.4	1170	1	US-09-178-252-23
18	3731.5	57.3	1167	1	US-08-032-364-2
19	3731.5	57.3	1167	1	US-08-100-709-2
20	3731.5	57.3	1167	1	US-08-176-865-2
21	3731.5	57.3	1167	1	US-08-474-038-2
22	3731.5	57.3	1167	2	US-08-779-046-2
23	3572	54.8	1174	1	US-08-881-340-2
24	3572	54.8	1174	1	US-08-040-751-3
25	3572	54.8	1174	1	US-08-291-368-2
26	3572	54.8	1174	2	US-08-962-190-2
27	3572	54.8	1174	6	PCT-US95-10310-2
					Patent No. 5164180-4

28 3565 54.7 1176 1 US-08-257-999-2 Sequence 2, Appli  
29 3532 54.2 1168 1 US-08-291-368-4 Sequence 4, Appli  
30 3532 54.2 1168 2 US-08-962-190-4 Sequence 4, Appli  
31 3532 54.2 1168 5 PCT-US95-10310-4 Sequence 4, Appli  
32 3510.5 53.9 1189 2 US-08-980-071-59 Sequence 59, Appli  
33 3510.5 53.9 1189 3 US-09-314-093-59 Sequence 59, Appli  
34 3510.5 53.9 1189 4 US-09-337-635-59 Sequence 59, Appli  
35 3510.5 53.9 1189 4 US-09-337-635-59 Sequence 59, Appli  
36 3508.5 53.9 1189 2 US-08-980-071-2 Sequence 2, Appli  
37 3508.5 53.9 1189 2 US-08-757-536-2 Sequence 2, Appli  
38 3508.5 53.9 1189 3 US-09-314-093-2 Sequence 2, Appli  
39 3508.5 53.9 1189 3 US-09-250-848-2 Sequence 2, Appli  
40 3508.5 53.9 1189 3 US-09-251-885-2 Sequence 2, Appli  
41 3508.5 53.9 1189 4 US-09-337-635-2 Sequence 2, Appli  
42 3508.5 53.9 1189 4 US-09-337-635-2 Sequence 2, Appli  
43 3508 53.8 1177 3 US-08-754-490-10 Sequence 10, Appli  
44 3508 53.8 1177 3 US-08-922-505A-10 Sequence 10, Appli  
45 3508 53.8 1177 3 US-09-260-952A-10 Sequence 10, Appli

#### ALIGNMENTS

#### RESULT 1

US-07-951-715A-7

Sequence 7, Application US/07951715A

Patent No. 5625136

GENERAL INFORMATION:

APPLICANT: Koziel, Michael G.

APPLICANT: Desai, Nalini M.

APPLICANT: Lewis, Kelly S.

APPLICANT: Kramer, Vance C.

APPLICANT: Warren, Gregory W.

APPLICANT: Evola, Stephen V.

APPLICANT: Crossland, Lyle D.

APPLICANT: Wright, Martha S.

APPLICANT: Merlin, Ellis J.

APPLICANT: Launis, Karen L.

APPLICANT: Rothstein, Steven J.

APPLICANT: Bowman, Cindy G.

APPLICANT: Dawson, John L.

APPLICANT: Dunder, Erik M.

APPLICANT: Pace, Gary M.

APPLICANT: Suttie, Janet L.

APPLICANT: Suttie, Janet L.

TITLE OF INVENTION: SYNTHETIC DNA SEQUENCE HAVING ENHANCED

TITLE OF INVENTION: INSECTICIDAL ACTIVITY IN MAIZE

NUMBER OF SEQUENCES: 94

CORRESPONDENCE ADDRESS:

ADDRESSEE: CIBA-GEIGY Corporation

STREET: 7 Skyline Drive

CITY: Hawthorne

STATE: New York

COUNTRY: USA

ZIP: 10532

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patentin Release #1.0, Version #1.30B

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/07/951,715A

FILING DATE: 25-SEP-1992

CLASSIFICATION: 800

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 07/772,027

FILING DATE: 04-OCT-1991

ATTORNEY/AGENT INFORMATION:

NAME: Spruill, W. Murray

REGISTRATION NUMBER: 32,943

REFERENCE/DOCKET NUMBER: S-18805/A/CGC 1577/CIP

TELECOMMUNICATION INFORMATION:

TELEPHONE: (919)541-8615

TELEFAX: (919)541-8689

INFORMATION FOR SEQ ID NO: 7:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 1207 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-07-951-715A-7

Query Match 98.3%; Score 6405; DB 1; Length 1207;  
Best Local Similarity 99.9%; Pred. No. 0;  
Matches 1206; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 22 MDLLPDARIEDSLICIAEGNNIDPFVSASTVQTGINIAGRIILGVLPAGQLASFSYFLV 81  
DB 1 MDLLPDARIEDSLICIAEGNNIDPFVSASTVQTGINIAGRIILGVLPAGQLASFSYFLV 60

QY 82 GELWPRGRDQWEIFLEHVEQLINQITENARNALARIQGLGDSFRAYQOSLEDWLENRD 141  
DB 61 GELWPRGRDQWEIFLEHVEQLINQITENARNALARIQGLGDSFRAYQOSLEDWLENRD 120

QY 142 DARTSVLHTQVIALELDFLNA MPLFAIRNQEVPLLMVYAQAANLHLLLRDASLFGSEF 201  
DB 121 DARTSVLHTQVIALELDFLNA MPLFAIRNQEVPLLMVYAQAANLHLLLRDASLFGSEF 180

QY 202 GLTSQEIQRYERQVTRDYSDYCVWNTGLSLRGNTNAASWVYVYVYVYVYVYVYVYVYV 261  
DB 181 GLTSQEIQRYERQVTRDYSDYCVWNTGLSLRGNTNAASWVYVYVYVYVYVYVYVYVYV 240

QY 262 LVALPFSVDTRYPIINTSAQLTREYVYDAIGATGVNMAAMNNNAPFSAIEAAAIRS 321  
DB 241 LVALPFSVDTRYPIINTSAQLTREYVYDAIGATGVNMAAMNNNAPFSAIEAAAIRS 300

QY 322 PHLLDFLEQLTIFSSASSRWSNRHTMYRGHTIQSRPIGGGLNTSTHGATNTSINPVTLR 381  
DB 301 PHLLDFLEQLTIFSSASSRWSNRHTMYRGHTIQSRPIGGGLNTSTHGATNTSINPVTLR 360

QY 382 PASRDVYRTESVAGLLGIVLEPIHGVTYVRFNFTNPQNISDRGTANYSQPYSPGLQL 441  
DB 361 PASRDVYRTESVAGLLGIVLEPIHGVTYVRFNFTNPQNISDRGTANYSQPYSPGLQL 420

QY 442 KDSETELPETTERNYSYSHRLSHIGIILQSRVNVVYVYVYVYVYVYVYVYVYVYVYVY 501  
DB 421 KDSETELPETTERNYSYSHRLSHIGIILQSRVNVVYVYVYVYVYVYVYVYVYVYVYVY 480

QY 502 IPWKVASELPQGTIVVVRGPGTGGIILRRYVYVYVYVYVYVYVYVYVYVYVYVYVYVYVY 561  
DB 481 IPWKVASELPQGTIVVVRGPGTGGIILRRYVYVYVYVYVYVYVYVYVYVYVYVYVYVYVY 540

QY 562 DFDFFVSRGGTIVVVRGPGTGGIILRRYVYVYVYVYVYVYVYVYVYVYVYVYVYVYVY 621  
DB 541 DFDFFVSRGGTIVVVRGPGTGGIILRRYVYVYVYVYVYVYVYVYVYVYVYVYVYVYVY 600

QY 622 NGEVYIDKIEIIPVATFAEVDLERAEVYVYVYVYVYVYVYVYVYVYVYVYVYVYVYV 681  
DB 601 NGEVYIDKIEIIPVATFAEVDLERAEVYVYVYVYVYVYVYVYVYVYVYVYVYVYVYV 660

QY 682 CLSDEFCLDEKLEKVKYAKRLSDERNLLQDPNFTSINKQDPFISTNEOSNFTSIHQ 741  
DB 661 CLSDEFCLDEKLEKVKYAKRLSDERNLLQDPNFTSINKQDPFISTNEOSNFTSIHQ 720

QY 742 SEHGWSGENTIQGNDVFNKVYV 801  
DB 721 SEHGWSGENTIQGNDVFNKVYV 780

QY 802 EDSQDLLEYLYRYNAKHETLDPVGTESLWPLSVSPICRGCEPNRCAPHFENWPDLDSC 861  
DB 781 EDSQDLLEYLYRYNAKHETLDPVGTESLWPLSVSPICRGCEPNRCAPHFENWPDLDSC 840

QY 862 RDGEKCAHSHHFLSDIDVCGTDLHENLGVVWVYVYVYVYVYVYVYVYVYVYVYVYVYVYVYV 921  
DB 841 RDGEKCAHSHHFLSDIDVCGTDLHENLGVVWVYVYVYVYVYVYVYVYVYVYVYVYVYVYVYV 900

QY 922 LSRVKAERAKWRDKREKLEQLETKRVTYEAKEVDALFVDSQYDRLOADTNGIMHAADKL 981

DB 901 LSRVKAERAKWRDKREKLEQLETKRVTYEAKEVDALFVDSQYDRLOADTNGIMHAADKL 960  
QY 982 VHRIRAYLSLSELPVPGVNAEIPFELEGHIITAIISLYDARNVKNKGFNNGLTCWNVKGH 1041  
DB 961 VHRIRAYLSLSELPVPGVNAEIPFELEGHIITAIISLYDARNVKNKGFNNGLTCWNVKGH 1020

QY 1042 VDVOQSHRSDLVIPWEAEVSQAVRVCPCGGYILRVYAYKEGCGCVTIHEIENNTDE 1101  
DB 1021 VDVOQSHRSDLVIPWEAEVSQAVRVCPCGGYILRVYAYKEGCGCVTIHEIENNTDE 1080

QY 1102 LKFNKREBEVEYVPTDGTCDNYTAHQGTAGCADCACNSRNAGYEDAYEVDVTASVNYKPY 1161  
DB 1081 LKFNKREBEVEYVPTDGTCDNYTAHQGTAGCADCACNSRNAGYEDAYEVDVTASVNYKPY 1140

QY 1162 BEETVTVDRDNHCEYDRGVYV 1221  
DB 1141 BEETVTVDRDNHCEYDRGVYV 1200

QY 1222 ELLLMEE 1228  
DB 1201 ELLLMEE 1207

RESULT 2  
US-08-459-448A-7  
Sequence 7, Application US/08459448A  
Patent No. 5859336  
GENERAL INFORMATION:  
APPLICANT: Koziel, Michael G.  
APPLICANT: Desai, Nalini M.  
APPLICANT: Lewis, Kelly S.  
APPLICANT: Kramer, Vance C.  
APPLICANT: Warren, Gregory W.  
APPLICANT: Evola, Stephen V.  
APPLICANT: Crossland, Lyle D.  
APPLICANT: Wright, Martha S.  
APPLICANT: Merlin, Ellis J.  
APPLICANT: Lounis, Karen L.  
APPLICANT: Rothstein, Steven J.  
APPLICANT: Bowman, Cindy G.  
APPLICANT: Dawson, John L.  
APPLICANT: Dunder, Erik M.  
APPLICANT: Pace, Gary M.  
APPLICANT: Suttie, Janet L.  
TITLE OF INVENTION: SYNTHETIC DNA SEQUENCE HAVING ENHANCED  
TITLE OF INVENTION: INSECTICIDAL ACTIVITY IN MAIZE  
NUMBER OF SEQUENCES: 94  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: No. 5859336artis Corporation  
STREET: Patent & Trademark Dept., 520 White Plains  
CITY: Tarrytown  
STATE: New York  
COUNTRY: USA  
ZIP: 10591-9005  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patent In Release #1.0, Version #1.30  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/459,448A  
FILING DATE: 02-JUN-1995  
CLASSIFICATION: 800  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/951,715  
FILING DATE: 25-SEP-1992  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/772,027  
FILING DATE: 04-OCT-1991  
ATTORNEY/AGENT INFORMATION:  
NAME: Pace, Gary M.

862	Qy	RDGEKCAHSHHSFLSDIDVGC	TDLHNLGVVVF	KI	KTOEGHARLGNLEFIEBKPLLGEA	921	
841	Db	RDGEKCAHSHHSFLSDIDVGC	TDLHNLGVVVF	KI	KTOEGHARLGNLEFIEBKPLLGEA	900	
922	Qy	LSRVKAEAKWRDKREKLQET	KRVVTEAKEA	VDALFVDSQYDRLOAD	TNIGMHAADKL	981	
901	Db	LSRVKAEAKWRDKREKLQET	KRVVTEAKEA	VDALFVDSQYDRLOAD	TNIGMHAADKL	960	
982	Qy	VHRIREAYLSLSELPVIFGV	NAEIPFEELE	GHIITAI	SLYDARNVVKNGDFNNGLTCMNVKGH	1041	
961	Db	VHRIREAYLSLSELPVIFGV	NAEIPFEELE	GHIITAI	SLYDARNVVKNGDFNNGLTCMNVKGH	1020	
1042	Qy	VDVQOQSHHRSDLVIPWE	AEVSAQVRC	PGCGVILRV	TAYKEGYGCGCVTIHIE	1101	
1021	Db	VDVQOQSHHRSDLVIPWE	AEVSAQVRC	PGCGVILRV	TAYKEGYGCGCVTIHIE	1080	
1102	Qy	LKPKNEEEBEVYPTDGT	CNDYTAHOG	TAGCADCAC	NSRNAGYEDAEVD	TTASVNYKPTY	1161
1081	Db	LKPKNEEEBEVYPTDGT	CNDYTAHOG	TAGCADCAC	NSRNAGYEDAEVD	TTASVNYKPTY	1140
1162	Qy	EEETYTDVRDNHCEYDR	GVNYPVP	PAGVVT	KELEYFPETD	TVWIEIGETEGKFIVDSV	1221
1141	Db	EEETYTDVRDNHCEYDR	GVNYPVP	PAGVVT	KELEYFPETD	TVWIEIGETEGKFIVDSV	1200
1222	Qy	ELLLMEE	1228				
1201	Db	ELLLMEE	1207				

RESULT 3  
US-08-459-595A-7  
Sequence 7, Application US/08459595A  
Patent No. 6018104  
GENERAL INFORMATION:  
APPLICANT: Koziel, Michael G.  
APPLICANT: Desai, Nalini M.  
APPLICANT: Lewis, Kelly S.  
APPLICANT: Kramer, Vance C.  
APPLICANT: Warren, Gregory W.  
APPLICANT: Evola, Stephen V.  
APPLICANT: Crossland, Lyle D.  
APPLICANT: Wright, Martha S.  
APPLICANT: Merlin, Ellis J.  
APPLICANT: Launis, Karen L.  
APPLICANT: Rothstein, Steven J.  
APPLICANT: Bowman, Cindy G.  
APPLICANT: Dawson, John L.  
APPLICANT: Dunder, Erik M.  
APPLICANT: Pace, Gary M.  
APPLICANT: Suttie, Janet L.  
TITLE OF INVENTION: SYNTHETIC DNA SEQUENCE HAVING ENHANCED  
TITLE OF INVENTION: INSECTICIDAL ACTIVITY IN MAIZE  
NUMBER OF SEQUENCES: 94  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: No. 6018104artis Corporation  
STREET: Patent & Trademark Dept., 520 White Plains  
STREET: Rd., POB 2005  
CITY: Tarrytown  
STATE: New York  
COUNTRY: USA  
ZIP: 10591-9005  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: PatentIn Release #1.0, Version #1.30  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/459,595A  
FILING DATE: 02-JUN-1995  
CLASSIFICATION: 800  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/951,715  
FILING DATE: 25-SEP-1992

PRIOR APPLICATION DATA:									
APPLICATION NUMBER: US 07/772,027									
FILING DATE: 04-OCT-1991									
ATTORNEY/AGENT INFORMATION:									
NAME: Pace, Gary M.									
REGISTRATION NUMBER: 40403									
REFERENCE/DOCKET NUMBER: CGC 1577/CIP/DIV3									
TELECOMMUNICATION INFORMATION:									
TELEPHONE: (919)541-8582									
TELEFAX: (919)541-8689									
INFORMATION FOR SEQ ID NO: 7:									
SEQUENCE CHARACTERISTICS:									
LENGTH: 1207 amino acids									
TYPE: amino acid									
TOPOLOGY: linear									
MOLECULE TYPE: protein									
US-08-459-595A-7									
Query Match 98.3%; Score 6405; DB 3; Length 1207;									
Best Local Similarity 99.9%; Pred. No. 0;									
Matches 1206; Conservative 1; Mismatches 0; Indels 0; Gaps 0;									
Qy	22	MDLLPDARIESLCTAEGNNIDPFVSASTVQTGINIAGRIILGVLPAGQLASFYSLV	81						
Db	1	MDLLPDARIESLCTAEGNNIDPFVSASTVQTGINIAGRIILGVLPAGQLASFYSLV	60						
Qy	82	GELWPRGRDQWEIPLHEVQEQLNQIITENARTALARIQGLGDSFRAYQQSLEDWLENRD	141						
Db	61	GELWPRGRDQWEIPLHEVQEQLNQIITENARTALARIQGLGDSFRAYQQSLEDWLENRD	120						
Qy	142	DARTRSVLHTQVIALELDFLNAMPLFAIRNOEVPLLMVYAQAANLHLLLRDASLFGSEF	201						
Db	121	DARTRSVLHTQVIALELDFLNAMPLFAIRNOEVPLLMVYAQAANLHLLLRDASLFGSEF	180						
Qy	202	GLTSEIQRYRQVTRDSDYCVWEYNTGLNSLRGTNAASVRYNQFRDRLTLGLVLD	261						
Db	181	GLTSEIQRYRQVTRDSDYCVWEYNTGLNSLRGTNAASVRYNQFRDRLTLGLVLD	240						
Qy	262	LVALPSPYDTRTPINTSAQLTREYVTDATGATGNVMSMWNYNNAFSAIAEAAIARS	321						
Db	241	LVALPSPYDTRTPINTSAQLTREYVTDATGATGNVMSMWNYNNAFSAIAEAAIARS	300						
Qy	322	PHLLDFLEQLTIFSASSRWSNRHMTYWRGHTIQSRPIGGGLNTSTHGATNTSINPVTLR	381						
Db	301	PHLLDFLEQLTIFSASSRWSNRHMTYWRGHTIQSRPIGGGLNTSTHGATNTSINPVTLR	360						
Qy	382	FASRDVYRTESYAGVLLNGIYLEPHGVPTVRFNFTNPQNISDRGTANYSPQYSPGLQL	441						
Db	361	FASRDVYRTESYAGVLLNGIYLEPHGVPTVRFNFTNPQNISDRGTANYSPQYSPGLQL	420						
Qy	442	KDSETELPETTERPNYESYSHRLSHIGIILQSRVNVVPVSWTHRSADRTNTIGPNRITQ	501						
Db	421	KDSETELPETTERPNYESYSHRLSHIGIILQSRVNVVPVSWTHRSADRTNTIGPNRITQ	480						
Qy	502	IPMKASELPQGTTVVRGPGTGGDILRRNTTGGFPIRVTVNGPLTQRYRIGFRYASTV	561						
Db	481	IPMKASELPQGTTVVRGPGTGGDILRRNTTGGFPIRVTVNGPLTQRYRIGFRYASTV	540						
Qy	562	DFDFVSRGGTTVNNFRRLTNWSGDELKYNFVRRAFTTPTFTQIIDIIRTSIQGLSG	621						
Db	541	DFDFVSRGGTTVNNFRRLTNWSGDELKYNFVRRAFTTPTFTQIIDIIRTSIQGLSG	600						
Qy	622	NGEVYDKIEIIPVATFAEYDLERAQAVNALFTNPNRRLKTDVTDYHIDQVSNLVA	681						
Db	601	NGEVYDKIEIIPVATFAEYDLERAQAVNALFTNPNRRLKTDVTDYHIDQVSNLVA	660						
Qy	682	CLSDBFCLDEKRELLEKVKYAKRLSDERNLLQDPNFTSINKQPDFISTNEQSNFTSIHEQ	741						
Db	661	CLSDBFCLDEKRELLEKVKYAKRLSDERNLLQDPNFTSINKQPDFISTNEQSNFTSIHEQ	720						
Qy	742	SEHGHWGSENITIQBGNDVFKNYVTLPGTFNECYPTLYKIGISELKAATRYQLRGYI	801						
Db	721	SEHGHWGSENITIQBGNDVFKNYVTLPGTFNECYPTLYKIGISELKAATRYQLRGYI	780						

RESULT 4  
US-08-459-504B-7  
; Sequence 7, Application US/08459504B  
; Patent No. 6075185  
; GENERAL INFORMATION:  
; APPLICANT: Koziel, Michael G.  
; APPLICANT: Desai, Nalini M.  
; APPLICANT: Lewis, Kelly S.  
; APPLICANT: Kramer, Vance C.  
; APPLICANT: Warren, Gregory W.  
; APPLICANT: Evola, Stephen V.  
; APPLICANT: Crossland, Lyle D.  
; APPLICANT: Wright, Martha S.  
; APPLICANT: Launis, Karen L.  
; APPLICANT: Rothstein, Steven J.  
; APPLICANT: Bowman, Cindy G.  
; APPLICANT: Dawson, John L.  
; APPLICANT: Dunder, Erik M.  
; APPLICANT: Pace, Gary M.  
; APPLICANT: Suttie, Janet L.  
; TITLE OF INVENTION: SYNTHETIC DNA SEQUENCE HAVING ENHANCED  
; TITLE OF INVENTION: INSECTICIDAL ACTIVITY IN MAIZE  
; NUMBER OF SEQUENCES: 94  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: NO. 6075185artis Corporation  
; STREET: 3054 Cornwalis Road  
; CITY: Research Triangle Park  
; STATE: NC  
; COUNTRY: USA  
; ZIP: 27709  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: PatentIn Release #1.0, Version #1.30  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/459,504B  
; FILING DATE:

CLASSIFICATION:  
PRIOR APPLICATION DATA: US 08/459,595  
FILING DATE: 02-JUN-1995  
APPLICATION NUMBER: US 07/951,715  
FILING DATE: 25-SEP-1992  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/772,027  
FILING DATE: 04-OCT-1991  
ATTORNEY/AGENT INFORMATION:  
NAME: Meigs, J. Timothy  
REGISTRATION NUMBER: 38,241  
REFERENCE/DOCKET NUMBER: CGC1577/CIP/DIV  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (919)541-8587  
TELEFAX: (919)541-8689  
INFORMATION FOR SEQ ID NO: 7:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 1207 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-08-459-504B-7

Query Match 98.3%; Score 6405; DB 3; Length 1207;  
Best Local Similarity 99.9%; Pred. No. 0;  
Matches 1206; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy	22	MDLLPDARIEDSLCIAEGNNIDPFVSASTVGTGINIAGRIILGVLPVFPAGQASFYSLV	81
Db	1	MDLLPDARIEDSLCIAEGNNIDPFVSASTVGTGINIAGRIILGVLPVFPAGQASFYSLV	60
Qy	82	GELMPGRDOWEIEFLEHVEQLINQOITENARTALARLQGLGDSFRAYQQSLEDWLENRD	141
Db	61	GELMPGRDOWEIEFLEHVEQLINQOITENARTALARLQGLGDSFRAYQQSLEDWLENRD	120
Qy	142	DARTRSVLHTQYIALELDFINAMELFAIRNOVEPLLMYQAANLHLLLDASLFGSEF	201
Db	121	DARTRSVLHTQYIALELDFINAMELFAIRNOVEPLLMYQAANLHLLLDASLFGSEF	180
Qy	202	GLTQEIQRYYRVERTRDYSYCVYNTGLNSLGRGTNAASWVRNQFRDLTLGLVD	261
Db	181	GLTQEIQRYYRVERTRDYSYCVYNTGLNSLGRGTNAASWVRNQFRDLTLGLVD	240
Qy	262	LVALFPSTYDTRTYPINTSAQLTREYITDAIGATGVNMAWNNPNSFSAIAAAIRS	321
Db	241	LVALFPSTYDTRTYPINTSAQLTREYITDAIGATGVNMAWNNPNSFSAIAAAIRS	300
Qy	322	PHLLDFLBQLIFASASSRWSTHMYWRGHTIQSRPIGGGLNTSTHGATNTSINPVTLR	381
Db	301	PHLLDFLBQLIFASASSRWSTHMYWRGHTIQSRPIGGGLNTSTHGATNTSINPVTLR	360
Qy	382	FASRDVYRTESVAGVLLMGVLEPIHGVPTVREFTNPQNSDRGTANYSPYSPGLQL	441
Db	361	FASRDVYRTESVAGVLLMGVLEPIHGVPTVREFTNPQNSDRGTANYSPYSPGLQL	420
Qy	442	KDSETELPPTTERPNYESYSHRLSHIGIILQSRVNVVSVWTHRSADRTNTIGPNRITQ	501
Db	421	KDSETELPPTTERPNYESYSHRLSHIGIILQSRVNVVSVWTHRSADRTNTIGPNRITQ	480
Qy	502	IPMKVASELPQGTTVVRPGTGGDILRRNTGFGPIRVTVNGPLTQRYRIGFRYASTV	561
Db	481	IPMKVASELPQGTTVVRPGTGGDILRRNTGFGPIRVTVNGPLTQRYRIGFRYASTV	540
Qy	562	DFDFVSRGGTVVNNFRFLRTMNSGDELKYNFVRRAFTPTFTQIIDIIRTSIQGLSG	621
Db	541	DFDFVSRGGTVVNNFRFLRTMNSGDELKYNFVRRAFTPTFTQIIDIIRTSIQGLSG	600
Qy	622	NGEVYDKIEIIPVATPEAEYDLERAQEAVALFTNTNPRRLKTDVTDYHIDQVSNLVA	681
Db	601	NGEVYDKIEIIPVATPEAEYDLERAQEAVALFTNTNPRRLKTDVTDYHIDQVSNLVA	660
Qy	682	CLSEDFCLDEKRELLEKVKYAKRLSDERNLLQDPNFTSINKQDPFISTNEQSNFTSIHEQ	741

Db	661	CLSEDFCLDEKRELLEKVKYAKRLSDERNLLQDPNFTSINKQDPFISTNEQSNFTSIHEQ	720
Qy	742	SEHGWMGSENIITQEGNDVFKENYVTLPGTFNECYPTYLYQKIGESLKYATRYQLRGYI	801
Db	721	SEHGWMGSENIITQEGNDVFKENYVTLPGTFNECYPTYLYQKIGESLKYATRYQLRGYI	780
Qy	802	EDSQDLBIYLIRYNAKHETLDVPGTESLWPLSVESPIGRCEPNRCAPHFEPWNPDLDCSC	861
Db	781	EDSQDLBIYLIRYNAKHETLDVPGTESLWPLSVESPIGRCEPNRCAPHFEPWNPDLDCSC	840
Qy	862	RDGEKCAHSHHFSLDIDVGCTDLHENLGVVWVFKIKTOEGHARLGNLEFTEEKPLLGEA	921
Db	841	RDGEKCAHSHHFSLDIDVGCTDLHENLGVVWVFKIKTOEGHARLGNLEFTEEKPLLGEA	900
Qy	922	LSRVKRAEKKWRDKREKLQLETKEVYVTEAKEAVDALFVDSQYDRLQADTNIGMHAADKL	981
Db	901	LSRVKRAEKKWRDKREKLQLETKEVYVTEAKEAVDALFVDSQYDRLQADTNIGMHAADKL	960
Qy	982	VHRIREAYLSELVPIPGVNAIIFPELEGGHIIITSLYDARNVKNVGNFNNGLTCWNVKGH	1041
Db	961	VHRIREAYLSELVPIPGVNAIIFPELEGGHIIITSLYDARNVKNVGNFNNGLTCWNVKGH	1020
Qy	1042	VDVQSHHRSDDLVTPEWEAEVSQAVRVCPCGCGYILRVYAYKEGCGCTVTHEENNTDE	1101
Db	1021	VDVQSHHRSDDLVTPEWEAEVSQAVRVCPCGCGYILRVYAYKEGCGCTVTHEENNTDE	1080
Qy	1102	LKFKNREEEVYPTDTCNDYTAHQGTAGCADCNSRNAGYDAYEVDVTTASVNYKPTY	1161
Db	1081	LKFKNREEEVYPTDTCNDYTAHQGTAGCADCNSRNAGYDAYEVDVTTASVNYKPTY	1140
Qy	1162	EEETVTVDRDNHCEYDRGVNYPVAGYVTKLEYFPETDTVWIEIGETEGKPIVDSV	1221
Db	1141	EEETVTVDRDNHCEYDRGVNYPVAGYVTKLEYFPETDTVWIEIGETEGKPIVDSV	1200
Qy	1222	ELLIMEE 1228	
Db	1201	ELLIMEE 1207	

RESULT 5  
US-08-459-444-7  
Sequence 7, Application US/08459444A  
Patent No. 6121014  
GENERAL INFORMATION:  
APPLICANT: Koziel, Michael G.  
Desai, Nalini M.  
Lewis, Kelly S.  
Kramer, Vance C.  
Warren, Gregory W.  
Evola, Stephen V.  
Crossland, Lyle D.  
Wright, Martha S.  
Merlin, Ellis J.  
Lauis, Karen L.  
TITLE OF INVENTION: METHOD FOR PRODUCING A PLANT-OPTIMIZED  
NUCLEIC ACID CODING SEQUENCE  
NUMBER OF SEQUENCES: 94  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: No. 6121014artis Agribusiness Biotechnology Research, Inc.  
STREET: 3054 Cornwallis Road  
CITY: Research Triangle Park  
STATE: NC  
COUNTRY: USA  
ZIP: 27709  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: PatentIn Release #1.0, Version #1.30  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/459,444A  
FILING DATE: 02-Jun-1995

CLASSIFICATION: <Unknown>  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/951,715  
FILING DATE: 25-SEP-1992  
APPLICATION NUMBER: US 07/772,027  
FILING DATE: 04-OCT-1991  
ATTORNEY/AGENT INFORMATION:  
NAME: Meigs, J. Timothy  
REGISTRATION NUMBER: 38,241  
REFERENCE/DOCKET NUMBER: S-18805/P1/CGC1577/CIP/DIV6  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (919)541-8587  
TELEFAX: (919)541-8689  
INFORMATION FOR SEQ ID NO: 7:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 1207 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
SEQUENCE DESCRIPTION: SEQ ID NO: 7:  
US-08-459-444-7

Query Match 98.3%; Score 6405; DB 3; Length 1207;  
Best Local Similarity 99.9%; Pred. No. 0;  
Matches 1206; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 22 MDLLPDARIEDSLCIAEGNNIDPFVSASTVQTGINIAGRIILGVLPFAGQLASFSYFLV 81  
DB 1 MDLLPDARIEDSLCIAEGNNIDPFVSASTVQTGINIAGRIILGVLPFAGQLASFSYFLV 60  
QY 82 GELWPRGRDQWEIFLHVQLINQITENARNTALARLQGLGDSFRAYQOSLEDWLENRD 141  
DB 61 GELWPRGRDQWEIFLHVQLINQITENARNTALARLQGLGDSFRAYQOSLEDWLENRD 120  
QY 142 DARTSVLHTQVIALELDFLNAMPLFAIRNORVPLMLVYAQANLHLLLRDASLFGSEF 201  
DB 121 DARTSVLHTQVIALELDFLNAMPLFAIRNORVPLMLVYAQANLHLLLRDASLFGSEF 180  
QY 202 GLTSQEIQRYYERQVTRDYSYCVWYNTGLNSLRGTNAASWVRYNQFRDLTLGVLD 261  
DB 181 GLTSQEIQRYYERQVTRDYSYCVWYNTGLNSLRGTNAASWVRYNQFRDLTLGVLD 240  
QY 262 LVLPSPDYTRYPINTSNQLTRVYTDAGTAGVNMASMMWYNNNAPFSAIAAAIARS 321  
DB 241 LVLPSPDYTRYPINTSNQLTRVYTDAGTAGVNMASMMWYNNNAPFSAIAAAIARS 300  
QY 322 PHLLDFLEQLTIFSASSRWNTRHMTYWRGHTIQSRPIGGGLNTSTHGATNTSINPVTLR 381  
DB 301 PHLLDFLEQLTIFSASSRWNTRHMTYWRGHTIQSRPIGGGLNTSTHGATNTSINPVTLR 360  
QY 382 FASRDVYRTESYAGVLLMGVILEPIHGVTVRFTNPNQISDRGTANYSPQIESPGLQL 441  
DB 361 FASRDVYRTESYAGVLLMGVILEPIHGVTVRFTNPNQISDRGTANYSPQIESPGLQL 420  
QY 442 KDSETELPETERPNYESYSHLSHIGIILQSRVNVVYVSWTHRSADRTWTIGNRITQ 501  
DB 421 KDSETELPETERPNYESYSHLSHIGIILQSRVNVVYVSWTHRSADRTWTIGNRITQ 480  
QY 502 IPWVKASELPQGTTVVRGPGTGGDILRRNTGFGPIRVTVNGPLTORVYRIGFRYASTV 561  
DB 481 IPWVKASELPQGTTVVRGPGTGGDILRRNTGFGPIRVTVNGPLTORVYRIGFRYASTV 540  
QY 562 DFDVFSVGGTTVNNFRPLRTWNSGDELKYNFVRRAFTTPTFTQIQDIIRTSIQGLSG 621  
DB 541 DFDVFSVGGTTVNNFRPLRTWNSGDELKYNFVRRAFTTPTFTQIQDIIRTSIQGLSG 600  
QY 622 NGEVYIDKIEIIPVATPEAEVDLERAQVNAALFTNPRLKTQVTDVHDIDQVSNLVA 681  
DB 601 NGEVYIDKIEIIPVATPEAEVDLERAQVNAALFTNPRLKTQVTDVHDIDQVSNLVA 660  
QY 682 CLSDFCLDEKRELLEKVKYAKRLSDERNLLQDPNFTSINKQDPFISTNEQSNTFSIHEQ 741  
DB 661 CLSDFCLDEKRELLEKVKYAKRLSDERNLLQDPNFTSINKQDPFISTNEQSNTFSIHEQ 720

QY 742 SEHGWMGSENTIOEGNDVPKENYVTLPGTFNECYPTLYQKIGESLKYATRYQLRGYI 801  
DB 721 SEHGWMGSENTIOEGNDVPKENYVTLPGTFNECYPTLYQKIGESLKYATRYQLRGYI 780  
QY 802 EDSODLEIYLIRYNAKHETLDVPGTESLWPLSVESPIGRCEPNRCAPHPFWNPDLDSC 861  
DB 781 EDSODLEIYLIRYNAKHETLDVPGTESLWPLSVESPIGRCEPNRCAPHPFWNPDLDSC 840  
QY 862 RDGEKCAHSHHFSLDIDVGCTDLHENLGVVWVFKIKTQEGHARLGNLEFIEEKPLGEEA 921  
DB 841 RDGEKCAHSHHFSLDIDVGCTDLHENLGVVWVFKIKTQEGHARLGNLEFIEEKPLGEEA 900  
QY 922 LSRVKRAEKWRDKREKLOLETKRVYVTEAKVADALFVDSQYDRLOADTNGIMHAADKL 981  
DB 901 LSRVKRAEKWRDKREKLOLETKRVYVTEAKVADALFVDSQYDRLOADTNGIMHAADKL 960  
QY 982 VHRIRAYLSLPLVPIGVNAEIPFEELEGHITATLSLDARNVKNVGNGLTCWNVKGH 1041  
DB 961 VHRIRAYLSLPLVPIGVNAEIPFEELEGHITATLSLDARNVKNVGNGLTCWNVKGH 1020  
QY 1042 VDVOQSHRSDDLVIPEWEAEVSQAVRVCPCGCGYILRVAYKEGEGCVTIHEIENNTDE 1101  
DB 1021 VDVOQSHRSDDLVIPEWEAEVSQAVRVCPCGCGYILRVAYKEGEGCVTIHEIENNTDE 1080  
QY 1102 LKFKNREEEVYPTDGTCTNDYTAHQGTAGACACNSRNAGYDAYEVDTTASVNYKPT 1161  
DB 1081 LKFKNREEEVYPTDGTCTNDYTAHQGTAGACACNSRNAGYDAYEVDTTASVNYKPT 1140  
QY 1162 EEEYTDVRRDNHCEYDRGVNYPVPVAGVYVTELEYPFETDTWIEIGTEGKFI VDSV 1221  
DB 1141 EEEYTDVRRDNHCEYDRGVNYPVPVAGVYVTELEYPFETDTWIEIGTEGKFI VDSV 1200  
QY 1222 ELLLMEE 1228  
DB 1201 ELLLMEE 1207

RESULT 6  
US-09-053-549-8  
; Sequence 8, Application US/09053549  
; Patent No. 6121521  
; GENERAL INFORMATION:  
; APPLICANT: Desai, Nalini  
; TITLE OF INVENTION: No. 6121521el Insecticidal Protein and Gene  
; NUMBER OF SEQUENCES: 8  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: No. 6121521artis Corporation  
; STREET: 3054 Cornwalis Rd.  
; CITY: Research Triangle Park  
; STATE: NC  
; COUNTRY: USA  
; ZIP: 27709  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: PatentIn Release #1.0, Version #1.30  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/09/053,549  
; FILING DATE: 01-APR-1998  
; CLASSIFICATION: 800  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Pace, Gary M.  
; REGISTRATION NUMBER: 40,403  
; REFERENCE/DOCKET NUMBER: CGC 1995  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: 919-541-8582  
; TELEFAX: 919-541-8689  
; INFORMATION FOR SEQ ID NO: 8:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 1207 amino acids  
; TYPE: amino acid

TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-09-053-549-8

Query Match 98.3%; Score 6405; DB 3; Length 1207;  
Best Local Similarity 99.9%; Pred. No. 0;  
Matches 1206; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

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Oy 22 MDLLPDARIESLCLIAEGNNIDPFVSASTVQTGINIAGRIILGLVGPFPAGQLASFSYFLV 81
Db 1 MDLLPDARIESLCLIAEGNNIDPFVSASTVQTGINIAGRIILGLVGPFPAGQLASFSYFLV 60
Oy 82 GELMPRGDQWEIFLEHVEQLINQOITENARNALARIQLGLGDSPRAYQOQSLDLEWLRD 141
Db 61 GELMPRGDQWEIFLEHVEQLINQOITENARNALARIQLGLGDSPRAYQOQSLDLEWLRD 120
Oy 142 DARTSVLHTQVIALELDFLNMPLFAIRNQEVPVLLMYAQAANLHLLLRDASLFGSEF 201
Db 121 DARTSVLHTQVIALELDFLNMPLFAIRNQEVPVLLMYAQAANLHLLLRDASLFGSEF 180
Oy 202 GLTSEIQRYRYERQVTRDSDYCVWYNTGLNSLRGTNAASWVRYNQPRRDLTGLVLD 261
Db 181 GLTSEIQRYRYERQVTRDSDYCVWYNTGLNSLRGTNAASWVRYNQPRRDLTGLVLD 240
Oy 262 LVALFPSSYDTRTPINTSAQLTREYVTDATGATGVNMAWMYNNNAPFSAIAEAAARS 321
Db 241 LVALFPSSYDTRTPINTSAQLTREYVTDATGATGVNMAWMYNNNAPFSAIAEAAARS 300
Oy 322 PHLLDFLEQLAIFASASSRWSNRHTMYWRGHTIQSRPIGGGLNTSTHGATNTSINPVTLR 381
Db 301 PHLLDFLEQLAIFASASSRWSNRHTMYWRGHTIQSRPIGGGLNTSTHGATNTSINPVTLR 360
Oy 382 PASRDVYTESYAGVLLGIYLEPIHGVPVTRFNTNPNQISDRGTANYSPYSPGLQL 441
Db 361 PASRDVYTESYAGVLLGIYLEPIHGVPVTRFNTNPNQISDRGTANYSPYSPGLQL 420
Oy 442 KDSYTELPETERNYESYSHRSHIGIILQSRVNVVSVWTHRSADRTNTIGNRITQ 501
Db 421 KDSYTELPETERNYESYSHRSHIGIILQSRVNVVSVWTHRSADRTNTIGNRITQ 480
Oy 502 IPMKASBLPQGTTVVRGPGFTGGDILRRNTGFGPIRVTVNGPLTQRYRIGFYASTV 561
Db 481 IPMKASBLPQGTTVVRGPGFTGGDILRRNTGFGPIRVTVNGPLTQRYRIGFYASTV 540
Oy 562 DFDPFVSRGGTTVNNFRFLRTMWSGDELKYGNFVRAFTTPTFTQIQDIIRTSIQGLSG 621
Db 541 DFDPFVSRGGTTVNNFRFLRTMWSGDELKYGNFVRAFTTPTFTQIQDIIRTSIQGLSG 600
Oy 622 NGEVYDKIEIIPVATPEAEYDLERAQAVNALFTNTNPRRLKTDVTDYHIDQVSNLVA 681
Db 601 NGEVYDKIEIIPVATPEAEYDLERAQAVNALFTNTNPRRLKTDVTDYHIDQVSNLVA 660
Oy 682 CLSDEFCLDEKRELLEKVKYAKRLSDERNLLQDPNFTSINKOPDPISTNEQSNFTSIHEQ 741
Db 661 CLSDEFCLDEKRELLEKVKYAKRLSDERNLLQDPNFTSINKOPDPISTNEQSNFTSIHEQ 720
Oy 742 SEHGWMGSENITIQBGNDVFNKENYVTLPGTFNECYPTLYQKIGSELSKAYTRYQLRGYI 801
Db 721 SEHGWMGSENITIQBGNDVFNKENYVTLPGTFNECYPTLYQKIGSELSKAYTRYQLRGYI 780
Oy 802 EDSQDLEYLYRYNAKHETLDVPGTESLWPLSVESPIGRCEPNRCAPHFWNPDLDCSC 861
Db 781 EDSQDLEYLYRYNAKHETLDVPGTESLWPLSVESPIGRCEPNRCAPHFWNPDLDCSC 840
Oy 862 RDGEKCAHSHHFSLDIDVGCTDLHENLGVWVFKIKTOEGHARLGNLEFTEEPKLLGEA 921
Db 841 RDGEKCAHSHHFSLDIDVGCTDLHENLGVWVFKIKTOEGHARLGNLEFTEEPKLLGEA 900
Oy 922 LSRVKRAEKWRDKREKLQLETKRYVYTEAKAVDALFVDSQYDRQLQADTNIGMHAADKL 981
Db 901 LSRVKRAEKWRDKREKLQLETKRYVYTEAKAVDALFVDSQYDRQLQADTNIGMHAADKL 960
Oy 982 VHRIREAYLSELVPIPGVNAEIFEELEGHIIITSLYDARNVVKNGDFNNGLTCWNVKGH 1041
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Db 961 VHRIREAYLSELVPIPGVNAEIFEELEGHIIITSLYDARNVVKNGDFNNGLTCWNVKGH 1020
Oy 1042 VDVOQSHRRSLVPIPEWAEVSVQAVRVCPCGYILRVTAHYKEGYGEGCVTTHIEINNTDE 1101
Db 1021 VDVOQSHRRSLVPIPEWAEVSVQAVRVCPCGYILRVTAHYKEGYGEGCVTTHIEINNTDE 1080
Oy 1102 LKFKNREEEVYPTDGTCTCNDYTAHQGTAGCADACNSRNAGYDAYEYDVTASVNYKPTY 1161
Db 1081 LKFKNREEEVYPTDGTCTCNDYTAHQGTAGCADACNSRNAGYDAYEYDVTASVNYKPTY 1140
Oy 1162 EEEYTDVRRDNHCEYDRGVNYPVPAGYVTKLEYFPETDVTWIEIETEGKFIIVDSV 1221
Db 1141 EEEYTDVRRDNHCEYDRGVNYPVPAGYVTKLEYFPETDVTWIEIETEGKFIIVDSV 1200
Oy 1222 ELLLMEE 1228
Db 1201 ELLLMEE 1207
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## RESULT 7

US-09-547-422-7  
Sequence 7, Application US/09547422  
Patent No. 6320100

## GENERAL INFORMATION:

APPLICANT: Koziel, Michael G.  
Desai, Nalini M.  
Lewis, Kelly S.  
Kramer, Vance C.  
Warren, Gregory W.  
Evola, Stephen V.  
Crossland, Lyle D.  
Wright, Martha S.  
Merlin, Ellis J.  
Lauais, Karen L.

TITLE OF INVENTION: SYNTHETIC DNA SEQUENCE HAVING ENHANCED  
INSECTICIDAL ACTIVITY IN MAIZE

NUMBER OF SEQUENCES: 94

CORRESPONDENCE ADDRESS:

ADDRESSEE: No. 6320100artis Agribusiness Biotechnology Research, Inc.  
STREET: 3054 Cornwallis Road  
CITY: Research Triangle Park  
STATE: NC  
COUNTRY: USA  
ZIP: 27709

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patent in Release #1.0, Version #1.30  
CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/09/547,422

FILING DATE: 11-Apr-2000

CLASSIFICATION: <Unknown>

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 08/459,595

FILING DATE: 02-JUN-1995

APPLICATION NUMBER: US 07/951,715

FILING DATE: 25-SEP-1992

APPLICATION NUMBER: US 07/772,027

FILING DATE: 04-OCT-1991

ATTORNEY/AGENT INFORMATION:

NAME: Meigs, J. Timothy

REGISTRATION NUMBER: 38,241

REFERENCE/DOCKET NUMBER: S-18805H

TELECOMMUNICATION INFORMATION:

TELEPHONE: (919)541-8587

TELEFAX: (919)541-8689

INFORMATION FOR SEQ ID NO: 7:

SEQUENCE CHARACTERISTICS:

LENGTH: 1207 amino acids

TYPE: amino acid

TOPOLOGY: linear



MOLECULE TYPE: protein  
SEQUENCE DESCRIPTION: SEQ ID NO: 7;  
US-09-547-422-7

Query Match 98.3%; Score 6405; DB 4; Length 1207;  
Best Local Similarity 99.9%; Pred. No. 0;  
Matches 1206; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 22 MDLLPDIARTSDLSICAEAGNNIDPFVSASTVQTGINIAGRIILGVLPFAGQALASFYSFLV 81  
DB 1 MDLLPDIARTSDLSICAEAGNNIDPFVSASTVQTGINIAGRIILGVLPFAGQALASFYSFLV 60

QY 82 GELWPRGRDQWEIFLHVHQLINQITENARNTALARLQGLGDSFRAYQOSLEDWLENRD 141  
DB 61 GELWPRGRDQWEIFLHVHQLINQITENARNTALARLQGLGDSFRAYQOSLEDWLENRD 120

QY 142 DARTSRVLTQVIALELDFNAMPFLPAIRNQEVPLLMVYAQAANLHLLLRDASLFGSEF 201  
DB 121 DARTSRVLTQVIALELDFNAMPFLPAIRNQEVPLLMVYAQAANLHLLLRDASLFGSEF 180

QY 202 GLTSQIORYYERQVTRDYSDYCVWYNTGLNSLRGTNAASWRYNQFRDLTLGLVD 261  
DB 181 GLTSQIORYYERQVTRDYSDYCVWYNTGLNSLRGTNAASWRYNQFRDLTLGLVD 240

QY 262 LVALPFSYDTRYPINTSAQLTREYVYTDGATGVNMAWMYNNNAPSFAIEAAIRS 321  
DB 241 LVALPFSYDTRYPINTSAQLTREYVYTDGATGVNMAWMYNNNAPSFAIEAAIRS 300

QY 322 PHLLDFLEQLTIFSSASSRNSRTHMYWGHTIQSRPIGGGLNTTHGATNTSINPVTIL 381  
DB 301 PHLLDFLEQLTIFSSASSRNSRTHMYWGHTIQSRPIGGGLNTTHGATNTSINPVTIL 360

QY 382 FASRDVYRTESYAGVLLGIYLEPIHGVTFRFNTFNPONISDRGTANYSQYSPGLQL 441  
DB 361 FASRDVYRTESYAGVLLGIYLEPIHGVTFRFNTFNPONISDRGTANYSQYSPGLQL 420

QY 442 KQSETELPETTERPNYESYSHRLSHIGIILQSRVNVVPVSWTHRSADRTNIGNRITQ 501  
DB 421 KQSETELPETTERPNYESYSHRLSHIGIILQSRVNVVPVSWTHRSADRTNIGNRITQ 480

QY 502 IPWKASLPOQTTVVRGPGTGGDILRTNTGGFGPIRVTVNGPLTORIGRFRYASTV 561  
DB 481 IPWKASLPOQTTVVRGPGTGGDILRTNTGGFGPIRVTVNGPLTORIGRFRYASTV 540

QY 562 DFDFVSRGGTTVNNFRFLRTWNSGDELKYGNFVRAFTTPTFTQIQDIIRTSIQGLSG 621  
DB 541 DFDFVSRGGTTVNNFRFLRTWNSGDELKYGNFVRAFTTPTFTQIQDIIRTSIQGLSG 600

QY 622 NGEVVIDKIEIIPVTATPEAEYDLERAQAVNALFTNTNPRRLKTDVTDYHIDQVSNLVA 681  
DB 601 NGEVVIDKIEIIPVTATPEAEYDLERAQAVNALFTNTNPRRLKTDVTDYHIDQVSNLVA 660

QY 682 CLSDFCLDEKRELEKVKYAKRLSDERNLQDPNFTSINKQPDFISTNEQSNFTSHEQ 741  
DB 661 CLSDFCLDEKRELEKVKYAKRLSDERNLQDPNFTSINKQPDFISTNEQSNFTSHEQ 720

QY 742 SHGWGSGENITIQEGNDVFNKYVTLPTFNECYPTYLYQKIGESLKYATRYQLRGYI 801  
DB 721 SHGWGSGENITIQEGNDVFNKYVTLPTFNECYPTYLYQKIGESLKYATRYQLRGYI 780

QY 802 EDSQLEIYLTRYNAKHETLDVPGTESLWPLSVESPIRCCEPNRCAPHFENPDLCSC 861  
DB 781 EDSQLEIYLTRYNAKHETLDVPGTESLWPLSVESPIRCCEPNRCAPHFENPDLCSC 840

QY 862 RDGEKCAHSHHPSLIDVGCTDLHENLGVWVFKIKTQEGHARLGNLEFTEEKPLLGEA 921  
DB 841 RDGEKCAHSHHPSLIDVGCTDLHENLGVWVFKIKTQEGHARLGNLEFTEEKPLLGEA 900

QY 922 LSRVRAEKWRDKREKLEKQLETKRYVYTEAKSAVDALFVDSQYDLQADTNTGMTHAADKL 981  
DB 901 LSRVRAEKWRDKREKLEKQLETKRYVYTEAKSAVDALFVDSQYDLQADTNTGMTHAADKL 960

QY 982 VHIRREAYLSELPVPGVNAEIFEELGHIITALSVDARNVKNQDNFNNGLTCNNVKGH 1041

DB 961 VHIRREAYLSELPVPGVNAEIFEELGHIITALSVDARNVKNQDNFNNGLTCNNVKGH 1020

QY 1042 VDVQSHRRSLDLVIPWEAEVSAQVRVPCGCGYILRVTAKEGYGEGCVTTHIEIENNTDE 1101  
DB 1021 VDVQSHRRSLDLVIPWEAEVSAQVRVPCGCGYILRVTAKEGYGEGCVTTHIEIENNTDE 1080

QY 1102 LKFKNREBEVEYPTDGTCTCNDYTAHQGTAGACADACNSRNAGYEDAYEVDTTASVNYKPTY 1161  
DB 1081 LKFKNREBEVEYPTDGTCTCNDYTAHQGTAGACADACNSRNAGYEDAYEVDTTASVNYKPTY 1140

QY 1162 EEEYTDVRRDNHCHCEYDRGYVNPVPAGYVTKLEYFPETDVTWIEIGETEGKFIIVDSV 1221  
DB 1141 EEEYTDVRRDNHCHCEYDRGYVNPVPAGYVTKLEYFPETDVTWIEIGETEGKFIIVDSV 1200

QY 1222 ELLLMEE 1228  
DB 1201 ELLLMEE 1207

RESULT 8  
US-09-053-549-2  
; Sequence 2, Application US/09053549  
; Patent No. 6121521  
; GENERAL INFORMATION:  
; APPLICANT: Desai, Nalini  
; TITLE OF INVENTION: No. 6121521el Insecticidal Protein and Gene  
; NUMBER OF SEQUENCES: 8  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: NO. 6121521artis Corporation  
; STREET: 3054 Cornwalis Rd.  
; CITY: Research Triangle Park  
; STATE: NC  
; COUNTRY: USA  
; ZIP: 27709  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; OPERATING SYSTEM: IBM PC compatible  
; SOFTWARE: PatentIn Release #1.0, Version #1.30  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/09/053,549  
; FILING DATE: 01-APR-1998  
; CLASSIFICATION: 800  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Pace, Gary M.  
; REGISTRATION NUMBER: 40,403  
; REFERENCE/DOCKET NUMBER: CGC 1995  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: 919-541-8582  
; TELEFAX: 919-541-8689  
; INFORMATION FOR SEQ ID NO: 2:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 1227 amino acids  
; TYPE: amino acid  
; TOPOLOGY: linear  
; MOLECULE TYPE: protein  
; US-09-053-549-2

Query Match 92.8%; Score 6044.5; DB 3; Length 1227;  
Best Local Similarity 93.0%; Pred. No. 0;  
Matches 1147; Conservative 33; Mismatches 42; Indels 11; Gaps 3;

QY 1 LTSNRKNENIINAVSNHSAQMDLLDPDARIEDSLICAEAGNNIDPFVSASTVQTGINIAG 60  
DB 1 MTSNRKNENIINAVSNHSAQMDLLDPDARIEDSLICAEAGNNIDPFVSASTVQTGINIAG 60

QY 61 ILGVLGVPPFAGQALASFYSFLVGLWPRGRDQWEIFLHVHQLINQITENARNTALARLQ 120  
DB 61 ILGVLGVPPFAGQALASFYSFLVGLWPRGRDQWEIFLHVHQLINQITENARNTALARLQ 120

QY 121 GLGDSFRAYQOSLEDWLENRDARTSRVLTQVIALELDFNAMPFLPAIRNQEVPLLMVY 180



Db 121 GLGDSFRAYQQSLDWLNRDARDTRSVLYTQYIALELDLFLNAMPFLFAIRNQEVPLLMVY 180  
Qy 181 AQAANLHLLLDASLFGSEFGLTSQEIQRYYERQVETRDYSDYCVWYNTGLNSLGT 240  
Db 181 AQAANLHLLLDASLFGSEFGLTSQEIQRYYERQVETRDYSDYCVWYNTGLNSLGT 240  
Qy 241 NAASWVRNQFRDLTLGLVDLVALFPGSYDTRTPINTSAQLTREVTDAIGATGVNMA 300  
Db 241 NAASWVRNQFRDLTLGLVDLVALFPGSYDTRTPINTSAQLTREVTDAIGATGVNMA 300  
Qy 301 MNWNNNAPSFAIEAAAIRSHLLDLEQLTIFSSASRWNTNTHMYWRIGHTIQSRPIG 360  
Db 301 MNWNNNAPSFAIEAAAIRSHLLDLEQLTIFSSASRWNTNTHMYWRIGHTIQSRPIG 360  
Qy 361 GGLNTSTHGATNTSINPVTLPFASRDVYRTSYAGVLLWGLYLEPIHGVPVTRNFTNPQ 420  
Db 361 GGLNTSTHGATNTSINPVTLPFASRDVYRTSYAGVLLWGLYLEPIHGVPVTRNFTNPQ 420  
Qy 421 NISDRGTANYSQPYSPGLQKDSLTPETTERPNYESYSHRLSHIGIILQSRVNVVPV 480  
Db 421 NISDRGTANYSQPYSPGLQKDSLTPETTERPNYESYSHRLSHIGIILQSRVNVVPV 480  
Qy 481 YSWTHRSADRTNTIGPNRITQIPMKASELPQGTTVVRGPGFTGDDILRRTNTGGFGPIR 540  
Db 481 YSWTHRSADRTNTIGPNRITQIPMKASELPQGTTVVRGPGFTGDDILRRTNTGGFGPIR 540  
Qy 541 VTVNGPLTQRIQRIYRFRVASTVDFDFVSRGTTVNNFRFLRTMNSGDELKYGNFVRAFT 600  
Db 541 VTVNGPLTQRIQRIYRFRVASTVDFDFVSRGTTVNNFRFLRTMNSGDELKYGNFVRAFT 600  
Qy 601 TPFTFTQIOLIRISIOGLSGNGEYVYDKIIEIIPVTATFEAYDILERAQEAVALFNTN 660  
Db 601 TPFTFTQIOLIRISIOGLSGNGEYVYDKIIEIIPVTATFEAYDILERAQEAVALFNTN 660  
Qy 661 PRLKTDVTDYHIDQVSNLACLDEFCLDEKRELLEKVKYAKRLSDERNLLOPNFTSI 720  
Db 661 PRLKTDVTDYHIDQVSNLACLDEFCLDEKRELLEKVKYAKRLSDERNLLOPNFTSI 720  
Qy 721 NKQPDFISTNQSNFTSIHEQSEHGWSGSENIITQEGNDVFNKENYVTLPGTFNFCYPTYL 780  
Db 721 NKQPDFISTNQSNFTSIHEQSEHGWSGSENIITQEGNDVFNKENYVTLPGTFNFCYPTYL 780  
Qy 781 YQKIGESLKYATRYOLRGYIEDSODLEIYLIRYNAXHETLDVPGTSLWPLSVESPIGR 840  
Db 781 YQKIGESLKYATRYOLRGYIEDSODLEIYLIRYNAXHETLDVPGTSLWPLSVESPIGR 840  
Qy 841 CGEPNRCAPHFEMWNPDLDCSDGCEKCAHSHHFLSLDIDVCGTDLHENLGVWVFKIKTQ 900  
Db 841 CGEPNRCAPHFEMWNPDLDCSDGCEKCAHSHHFLSLDIDVCGTDLHENLGVWVFKIKTQ 900  
Qy 901 EGHARLGNLEFIEBKPLLGEALSRYKRAEKKWRDKREKLOLETRKRVYTEAKEAVDALFVD 960  
Db 901 EGHARLGNLEFIEBKPLLGEALSRYKRAEKKWRDKREKLEWETNIVYKEAKESVDALFVN 960  
Qy 961 SOYDRLOQDTHNIGIHAADKLVRHIREAYLSELVPIPGVNAEIEELEGHITAIISLYDA 1020  
Db 961 SOYDRLOQDTHNIGIHAADKLVRHIREAYLSELVPIPGVNAEIEELEGHITAIISLYDA 1020  
Qy 1021 RNWVKGDFNGLTGNWVKGHDV - QOSHHSRSLDVIPEWEAEVSOAVRVCPCGCYILRV 1079  
Db 1021 RNWVKGDFNGLTGNWVKGHDV - QOSHHSRSLDVIPEWEAEVSOAVRVCPCGCYILRV 1079  
Qy 1080 AYKEGYGEGCVTIEIENNTDELAKFKREBEVEVPTDTGTGTCNDYTA - - - - - HQGTAGCADA 1135  
Db 1080 AYKEGYGEGCVTIEIENNTDELAKFKREBEVEVPTDTGTGTCNDYTA - - - - - HQGTAGCADA 1135  
Qy 1136 CNSRNAGVEDAYEDVTASVNYKPYTEETVTVRRONHCHYDRGVNYPVPVAGYVTK 1195  
Db 1136 CNSRNAGVEDAYEDVTASVNYKPYTEETVTVRRONHCHYDRGVNYPVPVAGYVTK 1195  
Qy 1195 YTSNRNVDGAYESSNVPADYASAYBEKAYTDCRRONPCSNRGYDYPPLPAGYVTK 1194  
Db 1195 YTSNRNVDGAYESSNVPADYASAYBEKAYTDCRRONPCSNRGYDYPPLPAGYVTK 1194  
Qy 1196 LEYFPETDVTWIEIGETEGKFIQVDSVLLMEE 1228  
Db 1196 LEYFPETDVTWIEIGETEGKFIQVDSVLLMEE 1227

RESULT 9  
US-08-100-709-4  
; Sequence 4, Application US/08100709  
; Patent No. 5323687  
; GENERAL INFORMATION:  
; APPLICANT: Donovan, William P.  
; APPLICANT: Tan, Yiping  
; APPLICANT: Jany, Christine S.  
; APPLICANT: Gonzalez Jr., Jose M.  
; TITLE OF INVENTION: BACILLUS THURINGIENSIS CYET4 AND CYET5  
; TITLE OF INVENTION: TOXIN GENES AND PROTEINS TOXIC TO LEPIDOPTERAN INSECTS  
; NUMBER OF SEQUENCES: 5  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Panitch Schwarze Jacobs & Nadel c/o A.S.  
; ADDRESS: Nadel  
; STREET: 1601 Market Street, 36th Floor  
; CITY: Philadelphia  
; STATE: Pennsylvania  
; COUNTRY: U.S.A.  
; ZIP: 19103  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: Patent In Release #1.0, Version #1.25  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/100,709  
; FILING DATE: 19930729  
; CLASSIFICATION: 514  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Egolf, Christopher  
; REGISTRATION NUMBER: 27633  
; REFERENCE/DOCKET NUMBER: 7205-49  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: 215-757-1590  
; INFORMATION FOR SEQ ID NO: 4:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 1229 amino acids  
; TYPE: amino acid  
; TOPOLOGY: linear  
; MOLECULE TYPE: protein  
US-08-100-709-4

Query Match 83.1%; Score 5413.5; DB 1; Length 1229;  
Best Local Similarity 82.6%; Pred. No. 0;  
Matches 1021; Conservative 74; Mismatches 126; Indels 15; Gaps 6;  
Qy 1 LTSNRKNENIINA-----VSNHSAQMDLLPDARIEDSLCIAEGNNIDPFVSASTVGTGI 55  
Db 1 LTSNRKNENIINALSIPTVSNPSTQNLSPDARIEDSLCVAEAVNNIDPFVSASTVGTGI 60  
Qy 56 NIAGRILGLVGPVAGQALFYSFLVGLVGLPGRDQWEIHFLEHVEQLINQOITENARNTA 115  
Db 61 NIAGRILGLVGPVAGQALFYSFLVGLVGLPGRDQWEIHFLEHVEQLINQOITENARNTA 120  
Qy 116 LARLOGLGDSFRAYQQSLDWLNRDARDTRSVLYTQYIALELDLFLNAMPFLFAIRNQEV 175  
Db 121 IARLEGLGRGYRSYQQALETWLDNRDARSILERYVALELDITTAIPLFRIRNEVP 180  
Qy 176 LMVYAQAANLHLLLDASLFGSEFGLTSQEIQRYYERQVETRDYSDYCVWYNTGLN 235  
Db 181 LMVYAQAANLHLLLDASLFGSEFGLTSQEIQRYYERQVETRDYSDYCVWYNTGLN 240  
Qy 236 SLRGNTAASWVRNQFRDLTLGLVDLVALFPGSYDTRTPINTSAQLTREVTDAIGATG 295  
Db 241 NLRGTNAESWLRNQFRDLTLGLVDLVALFPGSYDTRTPINTSAQLTREVTDAIGATG 300  
Qy 296 V--NMASMNWNNNAPSFAIEAAIRSHLLDLEQLTIFSSASRWNTNTHMYWRIGHT 353  
Db 301 APSGFASTNFWNNAPSFAIEAAIRSHLLDLEQLTIFSSASRWNTNTHMYWRIGHT 360



QY 533 TGGCPPIRVNGLPTQYRIGFRYASTVDFDFVSRGTTVNNFRFURTNWNSGDELKYG 592  
Db 539 TGTGDIIRLNTNPLVSQRYRIRYASTVDFDFVSRGTTVNNFRFURTNWNSGDELKYG 598  
QY 593 NFVRAFTPTFTTQIIRTSIGLNGEVEYIDKIEIIPVTATPEAEYDLERAQAV 652  
Db 599 SFRAGFTPTNPLNAQSTFTLGAQSPS - NOEYIDRVEFPAEVTPEAEYDLERAQAV 657  
QY 653 NALFTNTNPRRLKTDVTDYHIDQVSNLVACLSDEFCLDEKRELLKVKYAKRLSDERNLL 712  
Db 658 NALFTSTNPRRLKTDVTDYHIDQVSNLVACLSDEFCLDEKRELLKVKYAKRLSDERNLL 717  
QY 713 QDPNFTSINKQDPDFSTNEQSNFTSIHQSEHGHWGNSNIIOEGNDVFKENYVTLPTGF 772  
Db 718 QDPNFTSINKQDPDFSTNEQSNFTSIHQSEHGHWGNSNIIOEGNDVFKENYVTLPTGF 777  
QY 773 NECYPTLYIKIGESLXKAYTRYQURGYIEBQDLEIYLIRYNAKHETLDVPGTESLWPL 832  
Db 778 NECYPTLYIKIGESLXKAYTRYQURGYIEBQDLEIYLIRYNAKHETLDVPGTESLWPL 837  
QY 833 SVESPIGRGCBPNRCAPHFNWPDLDSCRDGCKCAHSHHFTLIDVGCCTDLHENLGVW 892  
Db 838 SVESPIGRGCBPNRCAPHFNWPDLDSCRDGCKCAHSHHFTLIDVGCCTDLHENLGVW 897  
QY 893 VVFKIKTOEGHARLGNLFIEKPLGALSRVKAERKWRDKREKLOLETKRYVTEAKE 952  
Db 898 VVFKIKTOEGHARLGNLFIEKPLGALSRVKAERKWRDKREKLOLETKRYVTEAKE 957  
QY 953 AVDALFVDSQVDRLOQADTNIGMIHAADKLVHRIEAYLSLSELPVPGVNAEIFEELGHII 1012  
Db 958 AVDALFVDSQVDRLOQADTNIGMIHAADKLVHRIEAYLSLSELPVPGVNAEIFEELGHII 1017  
QY 1013 TALSIDARNVVKNGDFNGLTCMNKGVHVDVQSHHRSDLVPIPEWAEVSOAVRVCPCG 1072  
Db 1018 TALSIDARNVVKNGDFNGLTCMNKGVHVDVQSHHRSDLVPIPEWAEVSOAVRVCPCG 1077  
QY 1073 GYLIRVATYKEGYGCGVTHIENNTDELKFKNREBEVEVPTDGTGNDYTAHQGTAGC 1132  
Db 1078 GYLIRVATYKEGYGCGVTHIENNTDELKFKNREBEVEVPTDGTGNDYTAHQGTAGC 1135  
QY 1133 ADACNSRNAGVEDAYEVDVTSVNYKPYEBETVTDVDRDNHCEYDRGVYVNPVPVAGYV 1192  
Db 1136 --ACNSRNAGVEDAYEVDVTSVNYKPYEBETVTDVDRDNHCEYDRGVYVNPVPVAGYV 1193  
QY 1193 TKELEYFPETDVTWIEIGETGKFIIVDSVELLLMEE 1228  
Db 1194 TKELEYFPETDVTWIEIGETGKFIIVDSVELLLMEE 1229

RESULT 11  
US-08-474-038-4  
; Sequence 4, Application US/08474038  
; Patent No. 5679343  
; GENERAL INFORMATION:  
; APPLICANT: Donovan, William P.  
; APPLICANT: Tan, Yiping  
; APPLICANT: Jan, Christine S.  
; APPLICANT: Gonzalez Jr., Jose M.  
; TITLE OF INVENTION: BACILLUS THURINGIENSIS clyt4 AND clyt5  
; TITLE OF INVENTION: TOXIN GENES AND PROTEINS TOXIC TO LEPIDOPTERAN INSECTS  
; NUMBER OF SEQUENCES: 5  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Panitch Schwarze Jacobs & Nadel c/o A.S.  
; ADDRESSEE: Nadel  
; STREET: 1601 Market Street, 36th Floor  
; CITY: Philadelphia  
; STATE: Pennsylvania  
; COUNTRY: U.S.A.  
; ZIP: 19103  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible

; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: Patentin Release #1.0, Version #1.25  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/474,038  
; FILING DATE: 07-JUN-1995  
; CLASSIFICATION: 514  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: US 08/176,865  
; FILING DATE: 30-DEC-1993  
; APPLICATION NUMBER: US 08/100,709  
; FILING DATE: 29-JUL-1993  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Egolf, Christopher  
; REGISTRATION NUMBER: 27633  
; REFERENCE/DOCKET NUMBER: 7205-49  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: 215-757-1590  
; INFORMATION FOR SEQ ID NO: 4:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 1229 amino acids  
; TYPE: amino acid  
; TOPOLOGY: linear  
; MOLECULE TYPE: protein  
; US-08-474-038-4

Query Match 83.1%; Score 5413.5; DB 1; Length 1229;  
Best Local Similarity 82.6%; Pred. No. 0;  
Matches 1021; Conservative 74; Mismatches 126; Indels 15; Gaps 6;

QY 1 LTSNRKNEETIINA-----VSNHSAQMDLLDPARIEDSLCIAEGNNDIPFVSASTVQGI 55  
Db 1 LTSNRKNEETIINALSTPTVSNPSTQMNLSDPARIEDSLCIAEGNNDIPFVSASTVQGI 60  
QY 56 NIAGRIILGVLPAGQALASFSYLVGELMWRDQWEIFLEHVEQLINQOITENARNTA 115  
Db 61 NIAGRIILGVLPAGQALASFSYLVGELMWRDQWEIFLEHVEQLINQOITENARNTA 120  
QY 116 LARIQGLGDSFRAYQQSLEMDWLENRRDARTSVLHUYOIALELDFLNAFLPFAIRNOBVP 175  
Db 121 IARLEGLGRGYSYQQALETWLDNRNDARSIIILERYVALELDTITTAIPLFIRNEEVP 180  
QY 176 LLVYQAANLHLLLRDASLFGSEFGLTQSOEIOQRYVERQVETRDYSDYCVENWNTGLN 235  
Db 181 LLVYQAANLHLLLRDASLFGSEFGLTQSOEIOQRYVERQVETRDYSDYCVENWNTGLN 240  
QY 236 SLRGTNAASVRYNQFRDLTLGVLDLVALPSPYDTRTYPINTSAQLTREYVTDAGATG 295  
Db 241 NLRGTNAESWLRVYQFRDLTLGVLDLVALPSPYDTRTYPINTSAQLTREYVTDAGATG 300  
QY 296 V--NMAASNNVNNAPSAIEAAAIIRSPHLLDPLEQLTIYSASSRWSSTQHMVYVWGR 353  
Db 301 APSGFASNNVNNAPSAIEAAAIIRSPHLLDPLEQLTIYSASSRWSSTQHMVYVWGR 360  
QY 354 IQSRPIGGLNTSHGAT-NTSINPVTIRFASRDVYTESVAGVLLWGIYLEPIHGVPTV 412  
Db 361 LNFRPIGGLNTSHGAT-NTSINPVTIRFASRDVYTESVAGVLLWGIYLEPIHGVPTV 418  
QY 413 RFNFTNPQNTSDRGATVNSQYSPGLQKDSLETPELTPETTERPNYESSYHRLSHIGIIL 472  
Db 419 RFNFTNPQNTSDRGATVNSQYSPGLQKDSLETPELTPETTERPNYESSYHRLSHIGIIL 478  
QY 473 QSRVNVVYVSWTHRSADRTNTIGPNRITQIPMWKASELPQGTTVVRGPGFTGGDILRRTN 532  
Db 479 GNTURAPVYVSWTHRSADRTNTIGPNRITQIPMWKASELPQGTTVVRGPGFTGGDILRRTN 538  
QY 533 TGGGPIRVTVNGELTQRYRIGFRYASTVDFDFVSRGTTVNNFRFURTNWNSGDELKYG 592  
Db 539 TGTGDIIRLNTNPLVSQRYRIRYASTVDFDFVSRGTTVNNFRFURTNWNSGDELKYG 598  
QY 593 NFVRAFTPTFTTQIIRTSIGLNGEVEYIDKIEIIPVTATPEAEYDLERAQAV 652  
Db 599 SFRAGFTPTNPLNAQSTFTLGAQSPS - NOEYIDRVEFPAEVTPEAEYDLERAQAV 657

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QY 653 NALFTNTNPRRLKTDVTDYHIDQVSNLVACLSDEFCLDEKRELEKVKYAKRLSDERNLL 712
Db 658 NALFTSTNPRRLKTDVTDYHIDQVSNLVACLSDEFCLDEKRELEKVKYAKRLSDERNLL 717
QY 713 QDPNFTSINKQPDFSTNEQSNFTSIHQSEHGHWGWSANIIOEGNDVFKENYVTLPGTF 772
Db 718 QDPNFTFISGQLSFASIDQSNFPISELSEHGHWGWSANVTIOEGNDVFKENYVTLPGTF 777
QY 773 NECYPTLYQKIGESLKAATRYQRLGVIEDSQDLLEIYLIYRNKAKHETLDVPGTSLWPL 832
Db 778 NECYNYLYQKIGESLKAATRYQRLGVIEDSQDLLEIYLIYRNKAKHETLDVPGTSLWPL 837
QY 833 SVESPIGRGCEPNRCAPHEWNPDLDCSCRDGECARHSHHFTLIDVGCITDLHENLGVW 892
Db 838 SVESPIGRGCEPNRCAPHEWNPDLDCSCRDGECARHSHHFTLIDVGCITDLHENLGVW 897
QY 893 VVFKIKTQEGHARLGNLFIEBKPLLGALSRVKAERKWRDKREKLOLETKRVVTEAKE 952
Db 898 VVFKIKTQEGVARLGNLFIEBKPLLGALSRVKAERKWRDKREKLOLETKRVVTEAKE 957
QY 953 AVDALFVDSQYDRLQADTNIGMIHAADKLVHRIEAYLSELVPIPGVNAEIFEELGHII 1012
Db 958 AVDALFVDSQYDRLQADTNIGMIHAADKLVHRIEAYLSELVPIPGVNAEIFEELGHII 1017
QY 1013 TAILSIDARNVVKNGDFNGLTCMNKGVHDVQQSHHRSDLVPEWEAEVSAVRVCPGC 1072
Db 1018 TAILSIDARNVVKNGDFNGLTCMNKGVHDVQQSHHRSDLVPEWEAEVSAVRVCPGR 1077
QY 1073 GYLIRVAYKEGYGCGCVTHIEINNTDELKPKNREBEVPTDTGTCNDYTAHQGTAGC 1132
Db 1078 GYLIRVAYKEGYGCGCVTHIEINNTDELKPKNREBEVPTDTGTCNDYTAHQGTAA 1135
QY 1133 ADACNSRNAGYDAYEVDVTTASVNYKPYEERTYTDVRRDNHCEYDRGVNVPVPGYV 1192
Db 1136 --ACNSRNAGYDAYEVDVTTASVNYKPYEERTYTDVRRDNHCEYDRGVNVPVPGYV 1193
QY 1193 TXLEYFFPTDVTWIEIGETGEKFIVDSEVLLLMEE 1228
Db 1194 TXLEYFFPTDVTWIEIGETGEKFIVDSEVLLLMEE 1229

RESULT 12
US-08-779-046-4
; Sequence 4, Application US/08779046
; Patent No. 5854053
; GENERAL INFORMATION:
; APPLICANT: Donovan, William P.
; APPLICANT: Tan, Yiping
; APPLICANT: Jany, Christine S.
; APPLICANT: Gonzalez Jr., Jose M.
; TITLE OF INVENTION: BACILLUS THURINGIENSIS cryET4 AND cryET5
; TITLE OF INVENTION: TOXIN GENES AND PROTEINS TOXIC TO LEPIDOPTERAN INSECTS
; NUMBER OF SEQUENCES: 5
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Panitch Schwarze Jacobs & Nadel c/o A.S.
; ADDRESSEE: Nadel
; STREET: 1601 Market Street, 36th Floor
; CITY: Philadelphia
; STATE: Pennsylvania
; COUNTRY: U.S.A.
; ZIP: 19103
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/779,046
; FILING DATE: 06-JAN-1997
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/100,709
; FILING DATE: 29-JUL-1993
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; ATTORNEY/AGENT INFORMATION:
; NAME: Egolf, Christopher
; REGISTRATION NUMBER: 27633
; REFERENCE/DOCKET NUMBER: 7205-49
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 215-757-1590
; INFORMATION FOR SEQ ID NO: 4:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 1229 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-779-046-4

Query Match 83.1%; Score 5413.5; DB 2; Length 1229;
Best Local Similarity 82.6%; Pred. No. 0;
Matches 1021; Conservative 74; Mismatches 126; Indels 15; Gaps 6;

QY 1 LTSNRKNEEIIINA-----VSNHSAQMDLLPDARIEDSLCIAEGNNIDPPFVSASTVQTGI 55
Db 1 LTSNRKNEEIIINALSIPTVSNPSTQNNLSPDARIEDSLCVAEVNNDPPFVSASTVQTGI 60
QY 56 NIAGRIILGVLPAGQOLASFYSLVCELWPRGRDQWEI FLEHVEQLINQOITENARNTA 115
Db 61 NIAGRIILGVLPAGQOLASFYSLVCELWPRGRDQWEI FLEHVEQLIRQQOITENTNTA 120
QY 116 LARLOGLGDSFRAVQOQSLDNLNRRDARTSRVLHTOYIALELDFLNAMPFLAIRNOEVP 175
Db 121 IARLEGLGRGYSVQQALETWLNRRNDARSILERYVALELDITTAIPLFRIRNEVP 180
QY 176 LLMYAQAANLHLLLRDASLFGSEFGLTSQEIQYRYERQVTRDYSYCVIEWNTGLN 235
Db 181 LLMYAQAANLHLLLRDASLFGSEMGWASSDVNQYQEQIRYTEEYSNHCVQWNTGLN 240
QY 236 SLRGTNAASVRVYVQPRDLTLGVLDLVALPSPVDTTYPINTSAQLTREYVTAIGATG 295
Db 241 NLRGTNAESMLRVYVQPRDLTLGVLDLVALPSPVDTTYPINTSAQLTREYVTDPIGRTN 300
QY 296 V--NWASMNWNNNAPSFAIEAAIRSPHLLDLEOLTIFSSASSRWSNTNMTYWRGHT 353
Db 301 APSGFASNTNPNNAPSFAIEAAIRSPHLLDLEOLTIFSSASSRWSNTNMTYWRGHR 360
QY 354 IQSRPIGGGLNTSTHGAT--NTSINPVLRFASRDVYRTESYAGVLLGMVLEPIHVPVTV 412
Db 361 LNFRPIGGGLNTSTQGLTNNNTSINPVLQFTSRDVRVYRTESNAGTNI--LFTTPVNGVPA 418
QY 413 RPNFTNPQNTSDRGATANYQYSPGQLQKDSSETLPPETTERPNYSESYSRHLSHIGILL 472
Db 419 RNFNPQNIYERGATTSQPYQGVIGQLFDSSETLPPETTERPNYSESYSRHLSHIGILL 478
QY 473 QSRVNVVYVSWTHRSADRTNTIGPNRITQIPMVKASELPGQTTVVRGPGFTGGDILRRTN 532
Db 479 GNTLRAPVYVSWTHRSADRTNTIGPNRITQIPLVKALNLHSGVTVVGGPGFTGGDILRRTN 538
QY 533 TGGFCPIRVTVNGPLTQYRIGFRYASTVDPDFVSVRGGTTVNNFRFLRTWNSGDELKYG 592
Db 539 TGTFGDIRLNLNVPLSQRYVRIRYASTVDTLQFFTRINGTIVNIGNSKRTNWRGDNLEVR 598
QY 593 NFVRRATFTPTFTQIQDIIRTSIQGLSGNGEVVIDKIEIIPVTATTPAEVDLERAQAV 652
Db 599 SFRTAGFSTPFNFNAQSFTFTLGAQSFS--NOEVVIDRVEFVPAEVTPEAEVDLERAQAV 657
QY 653 NALFTNTNPRRLKTDVTDYHIDQVSNLVACLSDEFCLDEKRELEKVKYAKRLSDERNLL 712
Db 658 NALFTSTNPRRLKTDVTDYHIDQVSNLVACLSDEFCLDEKRELEKVKYAKRLSDERNLL 717
QY 713 QDPNFTSINKQPDFSTNEQSNFTSIHQSEHGHWGWSANIIOEGNDVFKENYVTLPGTF 772
Db 718 QDPNFTFISGQLSFASIDQSNFPISELSEHGHWGWSANVTIOEGNDVFKENYVTLPGTF 777
QY 773 NECYPTLYQKIGESLKAATRYQRLGVIEDSQDLLEIYLIYRNKAKHETLDVPGTSLWPL 832
Db 778 NECYPNVLYQKIGESLKAATRYQRLGVIEDSQDLLEIYLIYRNKAKHETLDVPGTSLWPL 837
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QY 833 SVESPIGRGCEPNRCAPHFENWPDLDSCRDGCEKCAHSHHSHFSLDIDVGCCTDLHENLGVW 892  
 DB 838 SVESPIGRGCEPNRCAPHFENWPDLDSCRDGCEKCAHSHHSHFSLDIDVGCCTDLHENLGVW 897  
 QY 893 VVFKIKTOEGHARLGNLFIEBKPLLGALSRLVKAERKWRDKRKLQLETKRVVTEAKE 952  
 DB 898 VVFKIKTOEGHARLGNLFIEBKPLLGALSRLVKAERKWRDKRKLQLETKRVVTEAKE 957  
 QY 953 AVDALFVDSQYDRLQADTNIGMHAADKLVRHREAYISELPIVPGVNAEIEELEGHII 1012  
 DB 958 AVDALFVDSQYDRLQADTNIGMHAADKLVRHREAYISELPIVPGVNAEIEELEGHII 1017  
 QY 1013 TALSILYDARNVVKNGDFNGLTCWNVKGVHDVQOSSHRSDLVIPEWEAEVSQAVRVCGR 1072  
 DB 1018 TALSILYDARNVVKNGDFNGLTCWNVKGVHDVQOSSHRSDLVIPEWEAEVSQAVRVCGR 1077  
 QY 1073 GYLIVATYKEGYGCGVTVIHEIENNTDELKFKNEEBEVEVPTDGTGNDYTAHOGTAGC 1132  
 DB 1078 GYLIVATYKEGYGCGVTVIHEIENNTDELKFKNEEBEVEVPTDGTGNDYTAHOGTAGC 1135  
 QY 1133 ADACNSRNAGYEDAYEVDTTASVNYKPTYEBEETDVRDRDNHCEYDRGVVNYPPVAGYV 1192  
 DB 1136 --ACNSRNAGYEDAYEVDTTASVNYKPTYEBEETDVRDRDNHCEYDRGVVNYPPVAGYV 1193  
 QY 1193 TKELBYFPETDVTWIEIGETGKFIYDVSVELLMEE 1228  
 DB 1194 TKELBYFPETDVTWIEIGETGKFIYDVSVELLMEE 1229

RESULT 13

US-08-881-340-4  
 ; Sequence 4, Application US/08881340  
 ; Patent No. 5942658  
 ; GENERAL INFORMATION:  
 ; APPLICANT: Donovan, William P.  
 ; APPLICANT: Tan, Yaping  
 ; APPLICANT: Jany, Christine S.  
 ; APPLICANT: Gonzalez Jr., Jose M.  
 ; TITLE OF INVENTION: BACILLUS THURINGIENSIS cryET4 AND cryET5  
 ; TITLE OF INVENTION: TOXIN GENES AND PROTEINS TOXIC TO LEPIDOPTERAN INSECTS  
 ; NUMBER OF SEQUENCES: 5  
 ; CORRESPONDENCE ADDRESS:  
 ; ADDRESSEE: Panitch Schwarze Jacobs & Nadel c/o A.S.  
 ; ADDRESSEE: Nadel  
 ; STREET: 1601 Market Street, 36th Floor  
 ; CITY: Philadelphia  
 ; STATE: Pennsylvania  
 ; COUNTRY: U.S.A.  
 ; ZIP: 19103  
 ; COMPUTER READABLE FORM:  
 ; MEDIUM TYPE: Floppy disk  
 ; COMPUTER: IBM PC compatible  
 ; OPERATING SYSTEM: PC-DOS/MS-DOS  
 ; SOFTWARE: Patentin Release #1.0, Version #1.25  
 ; CURRENT APPLICATION DATA:  
 ; APPLICATION NUMBER: US/08/881.340  
 ; FILING DATE: 24-JUN-1997  
 ; CLASSIFICATION: 424  
 ; PRIOR APPLICATION DATA:  
 ; APPLICATION NUMBER: 08/100,709  
 ; FILING DATE: 29-JUL-1993  
 ; ATTORNEY/AGENT INFORMATION:  
 ; NAME: Egolf, Christopher  
 ; REGISTRATION NUMBER: 27633  
 ; REFERENCE/DOCKET NUMBER: 7205-49  
 ; TELECOMMUNICATION INFORMATION:  
 ; TELEPHONE: 215-757-1590  
 ; INFORMATION FOR SEQ ID NO: 4:  
 ; SEQUENCE CHARACTERISTICS:  
 ; LENGTH: 1229 amino acids  
 ; TYPE: amino acid  
 ; TOPOLOGY: linear

MOLECULE TYPE: protein

US-08-881-340-4

Query Match 83.1%; Score 5413.5; DB 2; Length 1229;  
 Best Local Similarity 82.6%; Pred. No. 0;  
 Matches 1021; Conservative 74; Mismatches 126; Indels 15; Gaps 6;

QY 1 LTSNRKNEIINA-----VNSHSAQMDDLDPARIEDSLCIAEAGNINIPFVSASTVQTGI 55  
 DB 1 LTSNRKNEIINALSIPTVSNPSTQMNLSDPARIEDSLCVAEANNIDPFVSASTVQTGI 60  
 QY 56 NIAGRIILGVLPAGQLASFYSLVGLWPGRDOWEIFLEHVEQLINQOITENARNTA 115  
 DB 61 NIAGRIILGVLPAGQLASFYSLVGLWPGRDOWEIFLEHVEQLIRQOVTENRNTA 120  
 QY 116 LARLQGLGDSFRAYQQSLEDLENRRDARTRSVLHTQVIALELDPFLNAMPFAIRNQEV 175  
 DB 121 IARLEGLGRGYSQQALETWLDNRNDARSIIILERVVALELDTITTAIPFIRINEVP 180  
 QY 176 LLMYAQAANLHLLLRDASLFGSEFGLTQSEIQRYYERQVTRTRDYSDYCVWYNTGLN 235  
 DB 181 LLMYAQAANLHLLLRDASLFGSEWGMASDVNQYQEQIRYTEYSNHCQWNTGLN 240  
 QY 236 SLRGTNAASVRYNQPRDLTLGVLDLVALPSPVDTTRYPTSQALTREYVTDGATG 295  
 DB 241 NLRGTNAESWLRYNQPRDLTLGVLDLVALPSPVDTTRYPTSQALTREYVTDGATG 300  
 QY 296 V--NNASMNWYNNNAPSFAIEAAAIIRSPHLLDLEQLTIFSAGRSWNTRHMTYRGHT 353  
 DB 301 APSGFATNWNNAAPSFAIEAAAIIRSPHLLDLEQLTIFSAGRSWNTRHMTYRGHT 360  
 QY 354 IQSRPIGGLNTSTHGAT--NTSINPVTLLRFASRDVYRTESYAGVLLMGVILEPIHGVPTV 412  
 DB 361 LNFRPIGGLNTSTQGLTNTSINPVTLLRFASRDVYRTESYAGVLLMGVILEPIHGVPTV 418  
 QY 413 RFNFTNPQISDRGTANYSQYSPGLQKDSSETLPELTERPNERNYESYHRLSHIGIL 472  
 DB 419 RFNFTNPQISDRGTANYSQYSPGLQKDSSETLPELTERPNERNYESYHRLSHIGIL 478  
 QY 473 QSRVNPVYVTHRSADRTNIGPNRITQIPMWKASELPQGTVVVRGPGFGGDLRLRTN 532  
 DB 479 GNTLRAPVYVTHRSADRTNIGPNRITQIPMWKASELPQGTVVVRGPGFGGDLRLRTN 538  
 QY 533 TGGFGPIRVTVNGPLTQYRIGFRYASTVDFPFVSRGGTTVNNFRFLRTVNSGDELKYG 592  
 DB 539 TGTGDIRLNLNVPLSQRYRVRVYASTVDFPFVSRGGTTVNNFRFLRTVNSGDELKYG 598  
 QY 593 NFVRRAFTTPTFTQIQDIIRTSIQGLSGNGEVVIDKIEIIPVTATFPAEVDLERAQAV 652  
 DB 599 SFRTAGFSTPFNLNAQSTFTLGAQSFS--NOEVVIDRVEFPVPAEVTPEABYDLERAQAV 657  
 QY 653 NALFTNTNPRLKTVDYDHIQVSNLVACLSDFCLDEKRELEKVKYAKRLSDERNLL 712  
 DB 658 NALFTNTNPRLKTVDYDHIQVSNLVACLSDFCLDEKRELEKVKYAKRLSDERNLL 717  
 QY 713 QDPNFTSINKQDPFISTNEQSNFTSIHQSHGHWGSENITIQBGNDVFKENYVTLPGTF 772  
 DB 718 QDPNFTSINKQDPFISTNEQSNFTSIHQSHGHWGSENITIQBGNDVFKENYVTLPGTF 777  
 QY 773 NECYPTLYQKIGESSELKAYTRYQIRGYEDSQLEIYLIIRYNAKHETLDVPGTESLWPL 832  
 DB 778 NECYPTLYQKIGESSELKAYTRYQIRGYEDSQLEIYLIIRYNAKHETLDVPGTESLWPL 837  
 QY 833 SVESPIGRGCEPNRCAPHFENWPDLDSCRDGCEKCAHSHHSHFSLDIDVGCCTDLHENLGVW 892  
 DB 838 SVESPIGRGCEPNRCAPHFENWPDLDSCRDGCEKCAHSHHSHFSLDIDVGCCTDLHENLGVW 897  
 QY 893 VVFKIKTOEGHARLGNLFIEBKPLLGALSRLVKAERKWRDKRKLQLETKRVVTEAKE 952  
 DB 898 VVFKIKTOEGHARLGNLFIEBKPLLGALSRLVKAERKWRDKRKLQLETKRVVTEAKE 957  
 QY 953 AVDALFVDSQYDRLQADTNIGMHAADKLVRHREAYISELPIVPGVNAEIEELEGHII 1012

Db 958 AVDALFVDSQYDQLQADTNIGMIHAADKLVRHREAYLSELPVPGVNAEIEFELEGHI 1017  
Qy 1013 TALSILYDARNVVKNGDFNGLTCMNVKGVHDVQSSHHSDLVPEWEAEVSAVRVCPGC 1072  
Db 1018 TAMSILYDARNVVKNGDFNGLTCMNVKGVHDVQSSHHSDLVPEWEAEVSAVRVCPGR 1077  
Qy 1073 GYLIVTAYKEGYGSGCVTHIEIENNTDELKFKQREBEVPTDTGTCDNYTAHQGTAGC 1132  
Db 1078 GYLIVTAYKEGYGSGCVTHIEIENNTDELKFKQREBEVPTDTGTCDNYTAHQGTAA-- 1135  
Qy 1133 ADACNSRAGVEDAYEVDVTTASVNVKPYBEETVTVDRDNHCEYDRGVVNPVPAGYV 1192  
Db 1136 --ACNSRAGVEDAYEVDVTTASVNVKPYBEETVTVDRDNHCEYDRGVVNPVPAGYV 1193  
Qy 1193 TKLEYFPETDTVWIEIGETEGKFI VDSVLELLMEE 1228  
Db 1194 TKLEYFPETDTVWIEIGETEGKFI VDSVLELLMEE 1229

## RESULT 14

US-08-448-170-8  
; Sequence 8, Application US/08448170  
; Patent No. 5723758  
; GENERAL INFORMATION:  
; APPLICANT: Payne, Jewel  
; APPLICANT: Cummings, David A.  
; APPLICANT: Cannon, Raymond J.C.  
; APPLICANT: Narva, Kenneth E.  
; APPLICANT: Stelman, Steve  
; TITLE OF INVENTION: No. 5723758el Bacillus thuringiensis Isolate Denoted  
; TITLE OF INVENTION: B.t. PS158C2, Active Against Lepidopteran Pests, and Genes  
; TITLE OF INVENTION: Encoding Lepidopteran-Active Toxins  
; NUMBER OF SEQUENCES: 10  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: David R. Saliwanchik  
; STREET: 2421 N.W. 41st Street, Suite A-1  
; CITY: Gainesville  
; STATE: Florida  
; COUNTRY: USA  
; ZIP: 32606  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: Patent In Release #1.0, Version #1.25  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/448,170  
; FILING DATE:  
; CLASSIFICATION: 424  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: US 08/069,902  
; FILING DATE: 01-JUNE-1993  
; CLASSIFICATION: 424  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: US 07/759,247  
; FILING DATE: 13-SEPT-1991  
; CLASSIFICATION: 424  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Saliwanchik, David R.  
; REGISTRATION NUMBER: 31,794  
; REFERENCE/DOCKET NUMBER: M/S 102D.C1  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: (904) 375-8100  
; TELEFAX: (904) 372-5800  
; INFORMATION FOR SEQ ID NO: 8:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 1227 amino acids  
; TYPE: amino acid  
; STRANDEDNESS: single  
; TOPOLOGY: linear  
; MOLECULE TYPE: peptide  
US-08-448-170-8

Query Match 82.1%; Score 5350.5; DB 1; Length 1227;  
Best Local Similarity 83.5%; Pred. No. 0;  
Matches 1031; Conservative 58; Mismatches 131; Indels 15; Gaps 6;  
Qy 1 LTSNRKNEIIN-----AVSNHSAQMDLLDPDARIEDSLCIAEGNNIDPFVSASTVOTGI 55  
Db 1 LTSNRKNEIINALSIPAVSNHSAQMNLSLTDARIEDSLCIAEGNNIDPFVSASTVOTGI 60  
Qy 56 NIAGRILGVLPVPAGQLASFYFLVCGELMPGRGDOWEIEFLEHVEQLINOQIITENARNTA 115  
Db 61 NIAGRILGVLPVPAGQLASFYFLVCGELMPGRGDOWEIEFLEHVEQLIRQVIENTRDTA 120  
Qy 116 LARLQGLGDSFRAYQOQSLDLEWLNRRDARTSRVLHTQYIALELDFLWAMPFAIRNOEVP 175  
Db 121 LARLQGLGNSFRAYQOQSLDLEWLNRRDARTSRVLHTQYIALELDFLWAMPFAIRNOEVP 180  
Qy 176 LLVYQAQANLHLLLDASLFGSEFGLTSQETQRYRYERQVTRTRDYSYDCEVNYTGLN 235  
Db 181 LLVYQAQANLHLLLDASLFGSEFGLTSQETQRYRYERQVTRTRDYSYDCEVNYTGLN 240  
Qy 236 SLRGTTAAASWVRVYNQPRRDLTLGVLDLVALFPSTYDTRTYPINTSAQLTREYVYTDAGATG 295  
Db 241 NLRGTTAAESWLRVYNQPRRDLTLGVLDLVALFPSTYDTRTYPINTSAQLTREYVYTDPIGRTN 300  
Qy 296 V--NMASNMVNNNAPSFAIEAAIRSPHLLDPLEQLTTFSSASRRSNTRHMTYWRGHT 353  
Db 301 APSGFASNTNFWNNAPSFAIEAAVIRPPHLLDPEQLTTFSSVLSRWSNTQYMNWVVGHR 360  
Qy 354 IQSRPIGGLNTSTHGATNTSINPVLRFASRDVVRVTSVAGVLLWGLYLEPIHGVPVTR 413  
Db 361 LESRTIRGSLSTSTHGATNTSINPVLQFTSRDVRVTSFAGINI--LLTTPVNGVPMWAR 418  
Qy 414 FNFTNPONISDRGTANYSQVPSGLQKDSLELPPETTERPNYESYSHRLSHIGIILQ 473  
Db 419 FNWRNPLN-SLRGSLLYTIGYTGVTQIFDSELTPELTERPNYESYSHRLSNIRLISG 477  
Qy 474 SRVNVVYSWTHRSADRTNTIGPNRITQIPMVKASELPQGTVVVRGPGFTGDIILRRNT 533  
Db 478 NTLRAPVYSWTHRSADRTNTISSDSITQIPLVKSNLNSGTSVVSFGFTGGDIIRTNVN 537  
Qy 534 GGFPIRVTVNGPLTQRYRIGFRYASIVDFDFVSRGGTTVNNFRFLRTNWSGDELKYN 593  
Db 538 GSVLSMGLNFNTSLQRYRVRYAASQTMVLRVTVGGSTTFDQGFSTMSANESLTSQS 597  
Qy 594 FVRAFTTPFTTQIQIIRTSIQGLSGNGEVYIDKIEIIPVTATFAEYDLERAQEAVN 653  
Db 598 FRFAEFPVGISASGSQ-TAGISISNNAGROTFFDKIEFIPITATFAEYDLERAQEAVN 656  
Qy 654 ALFTNTNPRRLKTDVTDYHIDQVSNLVACLSDFCLEKRELLEKVKYAKLSDBERNLLQ 713  
Db 657 ALFTNTNPRRLKTDVTDYHIDVSNLVACLSDFCLEKRELLEKVKYAKLSDBERNLLQ 716  
Qy 714 DPNFTSINKQPDFISTNEQSNFTSIHQSEHGWGWSNITIQEGNDVFKENVTLPPTFN 773  
Db 717 DPNFTSINKQPDFISTNEQSNFTSIHQSEHGWGWSNITIQEGNDVFKENVTLPPTFN 776  
Qy 774 ECPYTYLYQKIGESSELKAYTRYQLRGYIEDSQDLEIYLIRYNAXHETLDPVGTBSLWPLS 833  
Db 777 ECPYTYLYQKIGEAELKAYTRYQLSGYIEDSQDLEIYLIRYNAXHETLDPVGTBSLWPLS 836  
Qy 834 VESPIGRGCEPNRCAPHFEPWNPDLDCSCRDGEKCAHSHHSFSLDIDVCGTDLHENLGVWV 893  
Db 837 VESPIGRGCEPNRCAPHFEPWNPDLDCSCRDGEKCAHSHHSFSLDIDVCGI DLHENLGVWV 896  
Qy 894 VPKITQEGHARLGNLEFIEBKPLLGEALSRVKAEEKWRDKREKQLETKRVVYTEAKEA 953  
Db 897 VPKITQEGHARLGNLEFIEBKPLLGEALSRVKAEEKWRDKREKQLETKRVVYTEAKEA 956  
Qy 954 VDALFVDSQYDRLQADTNIGMIHAADKLVRHREAYLSELPVPGVNAEIEFELEGHIIT 1013  
Db 957 VDALFVDSQYDRLQADTNIGMIHAADKLVRHREAYLSELPVPGVNAEIEFELEGRIIT 1016  
Qy 1014 AISLYDARNVVKNGDFNGLTCMNVKGVHDVQSSHHSDLVPEWEAEVSAVRVCPGCG 1073

1017 ALSLDARNVKNNGDENGLACWVKGHVVDVQSHRSVLVTPENAEVSQAVRVCPRG 1076  
1074 YILRVAYKEGEGCVTHIENNTDELKFKNREEEVYPTDTCNDYTAHQGTAGCA 1133  
1077 YILRVAYKEGEGCVTHIENNTDELKFKNCEEEVYPTDTCNDYTAHQGTA-- 1133  
1134 DACNSNAGYDAYEVDVTASVNYKPYEEETVDRDNHCEYDRGVNYPVPAGYVT 1193  
1134 -ACNSNAGYDAYEVDVTASVNYKPYEEETVDRDNHCEYDRGVNYPVPAGYMT 1192  
1194 KELEYFPETDVTWIEIGETEGKFIIVDSVELLIMEE 1228  
1193 KELEYFPETDKWIEIGETEGKFIIVDSVELLIMEE 1227

RESULT 15  
US-08-961-803-9  
; Sequence 9, Application US/08961803  
; Patent No. 6150589  
; GENERAL INFORMATION:  
; APPLICANT: Payne, Jewel  
; APPLICANT: Cummings, David A.  
; APPLICANT: Cannon, Raymond J.C.  
; APPLICANT: Narva, Kenneth B.  
; APPLICANT: Stelman, Steve  
; TITLE OF INVENTION: No. 6150589el Bacillus thuringiensis Isolate Denoted  
; TITLE OF INVENTION: B.t. PS158C2, Active Against Lepidopteran Pests, and Genes  
; TITLE OF INVENTION: Encoding Lepidopteran-Active Toxins  
; NUMBER OF SEQUENCES: 10  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Jay M. Sanders  
; STREET: 2421 N.W. 41st Street, Suite A-1  
; CITY: Gainesville  
; STATE: Florida  
; COUNTRY: USA  
; ZIP: 32606  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: Patent In Release #1.0, Version #1.25  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/961,803  
; FILING DATE: 31-OCT-1997  
; CLASSIFICATION: 800  
; PRIOR APPLICATION NUMBER:  
; FILING DATE: 01-JUNE-1993  
; CLASSIFICATION: 800  
; APPLICATION NUMBER: US 07/759,247  
; FILING DATE: 13-SEPT-1991  
; CLASSIFICATION: 800  
; APPLICATION NUMBER: US 08/448,170  
; FILING DATE: 23-MAY-1995  
; CLASSIFICATION: 800  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Sanders, Jay M.  
; REGISTRATION NUMBER: 39,355  
; REFERENCE/DOCKET NUMBER: M/S 102DCD1  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: (352) 375-8100  
; TELEFAX: (352) 372-5800  
; INFORMATION FOR SEQ ID NO: 9:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 1227 amino acids  
; TYPE: amino acid  
; STRANDEDNESS: single  
; TOPOLOGY: linear  
; MOLECULE TYPE: peptide  
US-08-961-803-9

Query Match 82.1%; Score 5350.5; DB 3; Length 1227;  
Best Local Similarity 83.5%; Pred. No. 0;  
Matches 1031; Conservative 58; Mismatches 131; Indels 15; Gaps 6;  
Qy 1 LTSNRKNEELIN-----AVSNHSAQMDLLDPARIEDSLCIAEGNNIDPFVSASTVQTGI 55  
Db 1 LTSNRKNEELINALSIPAVSNHSAQMDLLDPARIEDSLCIAEGNNIDPFVSASTVQTGI 60  
Qy 56 NIAGRIILGVLPVGPAGQLASFSYFLVGLWPRGRDQWEI FLEHVEQLNQITENARNTA 115  
Db 61 NIAGRIILGVLPVGPAGQLASFSYFLVGLWPRGRDQWEI FLEHVEQLNQITENARNTA 120  
Qy 116 LARLOGLGDSPRAYQOQSLEDWLENRRDARTSVLHTQVIALELDFLNAMPFAIRNQVVP 175  
Db 121 LARLOGLGDSPRAYQOQSLEDWLENRRDARTSVLHTQVIALELDFLNAMPFAIRNQVVP 180  
Qy 176 LLMVYAQAANLHLLLRDASLFGSEFGLTQSEIOYRYEROVERTDYSYCVWVNTGLN 235  
Db 181 LLMVYAQAANLHLLLRDASLFGSEFGLTQSEIOYRYEROVERTDYSYCVWVNTGLN 240  
Qy 236 SLRGNTAAASWVRYNQFRRLDLTLGLVLDLVALPSPYDTRTYPINTSAQLTRVYVTDIAGATG 295  
Db 241 NLRGNTAAASWVRYNQFRRLDLTLGLVLDLVALPSPYDTRTYPINTSAQLTRVYVTDIAGATG 300  
Qy 296 V--NMASMNWNNAPSFSAIEAAIRSPHLLDFLEQLTIFSASSRWNTSRHMTYWRGHT 353  
Db 301 APSGFASTWNNAPSFSAIEAAIRSPHLLDFLEQLTIFSASSRWNTSRHMTYWRGHT 360  
Qy 354 IQSPRIGGLNTSTHGATNTSINPVLRFASRDVYRVESYAGVLLGWLGLYLEPIHCVPTVR 413  
Db 361 LESRTIRGSUSTSTHGNTSINPVLRFASRDVYRVESYAGVLLGWLGLYLEPIHCVPTVR 418  
Qy 414 FNFTNPQNISDRGTANYSQPYESPGLOKQDSELPETTERPNVYESYSHLSHIGITLQ 473  
Db 419 FNWENPLN-SLRGSLLYTIGYTGVTQLFDETELPEPPERPNVYESYSHLSHIGITLQ 477  
Qy 474 SRVNVVYVWTHRSADRNTIGPNRITQIPMVKASELPQGTVVVRGPGTGGDILRRNT 533  
Db 478 NTLRAPVYVWTHRSADRNTIGPNRITQIPMVKASELPQGTVVVRGPGTGGDILRRNT 537  
Qy 534 GGFPIRVTVNGPLTQRYRIGFRYASTVDFVSRGTTVNNFRFLRTMNSGDELKYGYN 593  
Db 538 GSVLSMGLNFNTSLORYRVRYVYAASTQWVLRYTVGGSTTFDQGFSTMSANESLTSQS 597  
Qy 594 FVRRATTPFTTQIDIIIRTSIQGLSGNGSVYIDKTEIIPVTATFEAYDLEAQAQAVN 653  
Db 598 FRFAEPFVGISASGSQ-TAGISISNNAGRTFFHFDKIEFIPITATFEAYDLEAQAQAVN 656  
Qy 654 ALFTNTNPRRLKTDVTDYHIDQVSNLVACLSDEFCLDEKRELLKVKYAKLSDERNLQ 713  
Db 657 ALFTNTNPRRLKTDVTDYHIDQVSNLVACLSDEFCLDEKRELLKVKYAKLSDERNLQ 716  
Qy 714 DPNETSINKQDDFISTNEQSNFTSIHQSEHGWSGSENIITQEGNDVPKENVYVLPPTFN 773  
Db 717 DPNETSINKQDDFISTNEQSNFTSIHQSEHGWSGSENIITQEGNDVPKENVYVLPPTFN 776  
Qy 774 ECPYTYLYQKIGESSELKAYTRYQLRGVIEDSQDLIEYLIRYNAKHETLDVPGTESLWPLS 833  
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Qy 834 VESPIGRCEPNRCAPHFENWPDLDSCRDGEKCAHSHHFSLDIDVCGTDLHENLGVWV 893  
Db 837 VESPIGRCEPNRCAPHFENWPDLDSCRDGEKCAHSHHFSLDIDVCGTDLHENLGVWV 896  
Qy 894 VFKIQTQEGHARLGNLEFIEBKPLLGALSRVKAERKWRDKREKLOLETKRVTYEAKEA 953  
Db 897 VFKIQTQEGHARLGNLEFIEBKPLLGALSRVKAERKWRDKREKLOLETKRVTYEAKEA 956  
Qy 954 VDALFVDSQVDRLOADTNGIMHAADKLVHRIREAYLSELVPIGVNAEFEELEGHIT 1013  
Db 957 VDALFVDSQVDRLOADTNGIMHAADKLVHRIREAYLSELVPIGVNAEFEELEGHIT 1016



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Qy 1014 AISLYDARNVVKNGDFNNGLTQWNVKGHVDVQQSHHRSDLVIPWEAEVSQAVRVCPCG 1073
Db 1017 AISLYDARNVVKNGDFNNGLTQWNVKGHVDVQQSHHRSVLVIPWEAEVSQAVRVCPCG 1076
Qy 1074 YILRVTAKEGYGECVTIHEIENNTDELKFNREEEVYPTDTGTCTNDYTAHQGTAGCA 1133
Db 1077 YILRVTAKEGYGECVTIHEIENNTDELKFNCEEEVYPTDTGTCTNDYTAHQGTAAA 1133
Qy 1134 DACSRNAGYEDAYEVDTTASVNYKPTYEEETDVRDHNHCEYDRGVVNYPPVPAGYVT 1193
Db 1134 -ACSRNAGYEDAYEVDTTASVNYKPTYEEETDVRDHNHCEYDRGVVNYPPVPAGYMT 1192
Qy 1194 KELEYFPETDVTWIEIGTEGKFIVDSVELLIMEE 1228
Db 1193 KELEYFPETDKWIEIGTEGKFIVDSVELLIMEE 1227

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Search completed: December 10, 2003, 18:16:30  
Job time : 27 secs

GenCore version 5.1.6  
Copyright (c) 1993 - 2003 Compugen Ltd.

OM protein - protein search, using sw model

Run on: December 10, 2003, 18:15:14 ; Search time 43 Seconds

(without alignments)  
5311.347 Million cell updates/sec

Title: US-09-661-016B-10

Perfect score: 6515

Sequence: 1 LTRNRKNEIINAVNSHA.....IGETEGKFIYDSVLLMEE 1228

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 684280 seqs, 185983659 residues

Total number of hits satisfying chosen parameters: 684280

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Published Applications AA:\*

- 1: /cgn2\_6/ptodata/2/pubpaa/US07\_PUBCOMB.pep.\*
- 2: /cgn2\_6/ptodata/2/pubpaa/PCT\_NEW\_PUB.pep.\*
- 3: /cgn2\_6/ptodata/2/pubpaa/US06\_NEW\_PUB.pep.\*
- 4: /cgn2\_6/ptodata/2/pubpaa/US06\_PUBCOMB.pep.\*
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- 8: /cgn2\_6/ptodata/2/pubpaa/US08\_PUBCOMB.pep.\*
- 9: /cgn2\_6/ptodata/2/pubpaa/US09A\_PUBCOMB.pep.\*
- 10: /cgn2\_6/ptodata/2/pubpaa/US09B\_PUBCOMB.pep.\*
- 11: /cgn2\_6/ptodata/2/pubpaa/US09C\_PUBCOMB.pep.\*
- 12: /cgn2\_6/ptodata/2/pubpaa/US09\_NEW\_PUB.pep.\*
- 13: /cgn2\_6/ptodata/2/pubpaa/US10A\_PUBCOMB.pep.\*
- 14: /cgn2\_6/ptodata/2/pubpaa/US10B\_PUBCOMB.pep.\*
- 15: /cgn2\_6/ptodata/2/pubpaa/US10C\_PUBCOMB.pep.\*
- 16: /cgn2\_6/ptodata/2/pubpaa/US10\_NEW\_PUB.pep.\*
- 17: /cgn2\_6/ptodata/2/pubpaa/US60\_NEW\_PUB.pep.\*
- 18: /cgn2\_6/ptodata/2/pubpaa/US60\_PUBCOMB.pep.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

# SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	6405	98.3	1207	11	US-09-988-462-7
2	4549	69.8	1186	9	US-09-826-660-23
3	3510.5	53.9	1189	11	US-09-972-175-59
4	3510.5	53.9	1189	12	US-10-200-522-59
5	3508.5	53.9	1189	11	US-09-972-175-2
6	3508.5	53.9	1189	12	US-10-200-522-2
7	3508	53.8	1177	9	US-09-873-873-10
8	3508	53.8	1177	9	US-09-873-873-12
9	3508	53.8	1177	11	US-09-873-873-14
10	3508	53.8	1177	11	US-09-997-914-10
11	3508	53.8	1177	11	US-09-997-914-12
12	3508	53.8	1177	11	US-09-997-914-14
13	3508	53.8	1177	12	US-10-365-645-10
14	3508	53.8	1177	12	US-10-365-645-12
15	3508	53.8	1177	12	US-10-365-645-14

16	3508	53.8	1181	11	US-09-988-462-11	Sequence 11, Appl
17	3508	53.8	1181	11	US-09-988-462-13	Sequence 13, Appl
18	3508	53.8	1181	11	US-09-988-462-17	Sequence 17, Appl
19	3508	53.8	1181	11	US-09-988-462-28	Sequence 28, Appl
20	3505	53.8	1177	9	US-09-873-873-26	Sequence 26, Appl
21	3505	53.8	1177	11	US-09-997-914-26	Sequence 26, Appl
22	3505	53.8	1177	12	US-10-365-645-26	Sequence 26, Appl
23	3504.5	53.8	1189	11	US-09-972-175-61	Sequence 61, Appl
24	3504.5	53.8	1189	12	US-10-200-522-61	Sequence 61, Appl
25	3504	53.8	1181	11	US-09-988-462-15	Sequence 15, Appl
26	3502.5	53.8	1189	11	US-09-972-175-4	Sequence 4, Appl
27	3502.5	53.8	1189	11	US-09-972-175-6	Sequence 6, Appl
28	3502.5	53.8	1189	12	US-10-200-522-4	Sequence 4, Appl
29	3502.5	53.8	1189	12	US-10-200-522-6	Sequence 6, Appl
30	3501.5	53.7	1189	11	US-09-972-175-12	Sequence 12, Appl
31	3501.5	53.7	1189	12	US-10-200-522-12	Sequence 12, Appl
32	3498.5	53.7	1189	11	US-09-972-175-8	Sequence 8, Appl
33	3498.5	53.7	1189	12	US-10-200-522-8	Sequence 8, Appl
34	3495.5	53.7	1189	11	US-09-972-175-10	Sequence 10, Appl
35	3495.5	53.7	1189	12	US-10-200-522-10	Sequence 10, Appl
36	3485.5	53.5	1189	12	US-10-102-469-20	Sequence 20, Appl
37	3481	53.4	1177	9	US-09-873-873-28	Sequence 28, Appl
38	3481	53.4	1177	11	US-09-997-914-28	Sequence 28, Appl
39	3481	53.4	1177	12	US-10-365-645-28	Sequence 28, Appl
40	3477	53.4	1177	15	US-10-035-060-6	Sequence 6, Appl
41	3476	53.4	1177	15	US-10-035-060-2	Sequence 2, Appl
42	3475	53.3	1177	15	US-10-035-060-8	Sequence 8, Appl
43	3467	53.2	1193	9	US-09-873-873-30	Sequence 30, Appl
44	3467	53.2	1193	11	US-09-997-914-30	Sequence 30, Appl
45	3467	53.2	1193	12	US-10-365-645-30	Sequence 30, Appl

## ALIGNMENTS

### RESULT 1

US-09-988-462-7  
; Sequence 7, Application US/09988462  
; Publication No. US20030046726A1  
; GENERAL INFORMATION:

APPLICANT: Koziel, Michael G.  
Desai, Nalini M.  
Lewis, Kelly S.  
Kramer, Vance C.  
Warren, Gregory W.  
Evola, Stephen V.  
Crossland, Lyle D.  
Wright, Martha S.  
Merlin, Ellis J.  
Lauinis, Karen L.

TITLE OF INVENTION: SYNTHETIC DNA SEQUENCE HAVING ENHANCED  
INSECTICIDAL ACTIVITY IN MAIZE

NUMBER OF SEQUENCES: 94

CORRESPONDENCE ADDRESS:

ADDRESSEE: Syngenta Biotechnology, Inc.

STREET: 3054 Cornwallis Road

CITY: Research Triangle Park

STATE: NC

COUNTRY: USA

ZIP: 27709

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patentin Release #1.0, Version #1.30

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/09/988.462

FILING DATE: 20-No. US20030046726A1-2001

CLASSIFICATION: <Unknown>

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 09/547,422

FILING DATE: 11-APR-2000

APPLICATION NUMBER: US 08/459,504

FILING DATE: 02-JUN-1995  
APPLICATION NUMBER: US 07/951,715  
FILING DATE: 25-SEP-1992  
APPLICATION NUMBER: US 07/772,027  
FILING DATE: 04-OCT-1991  
ATTORNEY/AGENT INFORMATION:  
NAME: Meigs, J. Timothy  
REGISTRATION NUMBER: 38,241  
REFERENCE/DOCKET NUMBER: S-188051  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (919)541-8587  
TELEFAX: (919)541-8689  
INFORMATION FOR SEQ ID NO: 7:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 1207 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
SEQUENCE DESCRIPTION: SEQ ID NO: 7:  
US-09-988-462-7

Query Match 98.3%; Score 6405; DB 11; Length 1207;  
Best Local Similarity 99.9%; Pred. No. 0;  
Matches 1206; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 22 MDLLPDARIEDSLCIAEGNNIDPFVSASTVOTGINIAGRIILGVLPFAGOLASFSYFLV 81  
DB 1 MDLLPDARIEDSLCIAEGNNIDPFVSASTVOTGINIAGRIILGVLPFAGOLASFSYFLV 60

QY 82 GELWPRGRDQWEIFLEHVEQLINQITENARNTALARLQGLGDSFRAYQOSLEDWLENRD 141  
DB 61 GELWPRGRDQWEIFLEHVEQLINQITENARNTALARLQGLGDSFRAYQOSLEDWLENRD 120

QY 142 DARTSVLHTQVIALELDFLNAMPFAIRNQEVPLLMVYAQAANLHLLLRDASLFGSEF 201  
DB 121 DARTSVLHTQVIALELDFLNAMPFAIRNQEVPLLMVYAQAANLHLLLRDASLFGSEF 180

QY 202 GLTSGEIOKRYERQVRYRDSYCVWYNTGLNSLRGTNAASVRYNQFRDLTLGLVD 261  
DB 181 GLTSGEIOKRYERQVRYRDSYCVWYNTGLNSLRGTNAASVRYNQFRDLTLGLVD 240

QY 262 LVALPFSYDTRTPINTSAQLTREVYTDAGATGVNMMASMMWNNNPFSAIEAAAIRS 321  
DB 241 LVALPFSYDTRTPINTSAQLTREVYTDAGATGVNMMASMMWNNNPFSAIEAAAIRS 300

QY 322 PHLLDFLEQLTTFSSASSRWSNTRHTYWRGHTIQSRPIGGGLNTSTHGATNTSINPVTIR 381  
DB 301 PHLLDFLEQLTTFSSASSRWSNTRHTYWRGHTIQSRPIGGGLNTSTHGATNTSINPVTIR 360

QY 382 FASRDVRYTESVAGVLLWGIYLEPIHGVPTVRPNFTNQISDRGTANYQSPYSPGLQL 441  
DB 361 FASRDVRYTESVAGVLLWGIYLEPIHGVPTVRPNFTNQISDRGTANYQSPYSPGLQL 420

QY 442 KDSETELPETTERPNYESYSHRLSHIGIILQSRVNVVYSWTHRSADRTNTIGPNRITQ 501  
DB 421 KDSETELPETTERPNYESYSHRLSHIGIILQSRVNVVYSWTHRSADRTNTIGPNRITQ 480

QY 502 IPWKASELPQGTTVVRGPGFTGGDILRRNTNGGPGPIRVTVNGPLTORIYRIGFYASTV 561  
DB 481 IPWKASELPQGTTVVRGPGFTGGDILRRNTNGGPGPIRVTVNGPLTORIYRIGFYASTV 540

QY 562 DFDFVSRGGTTVNNFRFRTWNSGDELKYGNFVRAFTTPTFTQIOIIRTSIQGLSG 621  
DB 541 DFDFVSRGGTTVNNFRFRTWNSGDELKYGNFVRAFTTPTFTQIOIIRTSIQGLSG 600

QY 622 NGEVIDKIEIIPVTATPEAYDLERAQAVNALFTNTNPRKLKTDVTDYHIDQVSNLVA 681  
DB 601 NGEVIDKIEIIPVTATPEAYDLERAQAVNALFTNTNPRKLKTDVTDYHIDQVSNLVA 660

QY 682 CLSDPECLDEKELLEKVKYAKRLSDERNLLQDPNFTSINKQPDFISTNEQSNFTSIHQ 741  
DB 661 CLSDPECLDEKELLEKVKYAKRLSDERNLLQDPNFTSINKQPDFISTNEQSNFTSIHQ 720

QY 742 SEHGWSGSENIITQEGNDVFKENYVTLPGTFNECYPTLYQKIGSELSKAYTRYQLRGYI 801  
DB 721 SEHGWSGSENIITQEGNDVFKENYVTLPGTFNECYPTLYQKIGSELSKAYTRYQLRGYI 780

QY 802 EDSQDLIYILIRYNAKHETLDVPGTESLWPLSVESPIGRGCEPNRCAPHFENWPDLDSC 861  
DB 781 EDSQDLIYILIRYNAKHETLDVPGTESLWPLSVESPIGRGCEPNRCAPHFENWPDLDSC 840

QY 862 RDGEKCAHSHHFSLDIDVGCTDLHENLGVVWVFKIKTOEGHARLGNLEFTEEKPLLGEA 921  
DB 841 RDGEKCAHSHHFSLDIDVGCTDLHENLGVVWVFKIKTOEGHARLGNLEFTEEKPLLGEA 900

QY 922 LSRVKRAEKKWRDKREKLQLETKEVYVTEAKEAVDALFVDSQYDRLOADTNIGMHAADKL 981  
DB 901 LSRVKRAEKKWRDKREKLQLETKEVYVTEAKEAVDALFVDSQYDRLOADTNIGMHAADKL 960

QY 982 VHRIRAYLSELPIPGVNAEIFEELSGHIITAIISLDVARNVKNQDFNGLTCWNVKGH 1041  
DB 961 VHRIRAYLSELPIPGVNAEIFEELSGHIITAIISLDVARNVKNQDFNGLTCWNVKGH 1020

QY 1042 VDVOQSHRSDLVIPWEAEVSQAVRVCPCGCGYILRVTAKEYGEGCVTTHEIENNTDE 1101  
DB 1021 VDVOQSHRSDLVIPWEAEVSQAVRVCPCGCGYILRVTAKEYGEGCVTTHEIENNTDE 1080

QY 1102 LKFNREBEVEYPTDGTGTCNDYTAHQGTAGCADACNSRNAGYEDAYEYDVTITASVNYKPT 1161  
DB 1081 LKFNREBEVEYPTDGTGTCNDYTAHQGTAGCADACNSRNAGYEDAYEYDVTITASVNYKPT 1140

QY 1162 BEETYDVRDRNHCEYDRGVNYPVPAGYVTKLEYFPETDVTWIEIGETEGKFIIVDSV 1221  
DB 1141 BEETYDVRDRNHCEYDRGVNYPVPAGYVTKLEYFPETDVTWIEIGETEGKFIIVDSV 1200

QY 1222 ELLLMEE 1228  
DB 1201 ELLLMEE 1207

## RESULT 2

US-09-826-660-23  
; Sequence 23, Application US/09826660  
; Patent No. US20010026940A1  
; GENERAL INFORMATION:  
; APPLICANT: Cardineau, Guy A.  
; APPLICANT: Stelman, Steven J.  
; APPLICANT: Narva, Kenneth E.  
; TITLE OF INVENTION: Plant-Optimized Genes Encoding Pesticidal Toxins  
; FILE REFERENCE: MA-714XC2D1  
; CURRENT APPLICATION NUMBER: US/09/826,660  
; CURRENT FILING DATE: 2001-04-05  
; PRIOR APPLICATION NUMBER: 09/178,252  
; PRIOR FILING DATE: 1998-10-23  
; PRIOR APPLICATION NUMBER: 60/065,215  
; PRIOR FILING DATE: 1997-11-12  
; PRIOR APPLICATION NUMBER: 60/076,445  
; PRIOR FILING DATE: 1998-03-02  
; NUMBER OF SEQ ID NOS: 27  
; SOFTWARE: PatentIn Ver. 2.0  
; SEQ ID NO 23  
; LENGTH: 1186  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Toxin encoded by synthetic B.t. gene  
US-09-826-660-23

Query Match 69.8%; Score 4549; DB 9; Length 1186;  
Best Local Similarity 72.5%; Pred. No. 0;  
Matches 899; Conservative 96; Mismatches 179; Indels 66; Gaps 10;

QY 1 LTSNRKNEIIN-----AVNSHSAQMDLLDPARIEDSLCIAEGNNIDPFVSASTVQTGI 55  
DB 1 MTSNRKNEIINALSIPAVNSHSAQMDLLDPARIEDSLCIAEGNNIDPFVSASTVQTGI 60

QY 56 NIAGRILGVLGVPFAGQLASFYSFLVGLWPRGRDQWEIFLHVHQLNQITENARNTA 115  
DB 61 NIAGRILGVLGVPFAGQIASFYSFLVGLWPRGRDPWEIFLHVHQLRQQTENRDTA 120  
QY 116 LARLOGLGDSFRAYQOOSLEDWLENRDDARTSVLHTQVIALELDFLNAMPLFAIRNQEV 175  
DB 121 LARLOGLGDSFRAYQOOSLEDWLENRDDARTSVLHTQVIALELDFLNAMPLFAIRNQEV 180  
QY 176 LLMVYAQAANLHLILLRDLASLFGSFGFLTSQBIQRYEROVERTRDYSDYCVWNTGN 235  
DB 181 LLMVYAQAANLHLILLRDLASLFGSFGFLTSQBIQRYEROVERTRDYSDYCVWNTGN 240  
QY 236 SLRGTTNAASWRYNOFRDLTLGLVDLVALPSPYDTRTYPIINTSAQLTRVYVTDGATG 295  
DB 241 NLRGTTNAASWRYNOFRDLTLGLVDLVALPSPYDTRTYPIINTSAQLTRVYVTDGATG 300  
QY 296 V--NMASMNWYNNAPSPFAISAAIRSPHLLDFLEQLTIFSSASSRWNTRHMTYWRGHT 353  
DB 301 APSGFASTNWFNNAPSPFAISAAIRSPHLLDFLEQLTIFSSASSRWNTRHMTYWRGHT 360  
QY 354 TQSRPIGGLNTSTHGATNTSINPVTLPASRDVYRTESYAGVLLWGLYLPPIHGVPTVR 413  
DB 361 LESRTIRGSLSTHGNTSINPVTLPASRDVYRTESYAGVLLWGLYLPPIHGVPTVR 418  
QY 414 FNFTNPQISDRGTANYQPYESPGLQKDSLTPETTPBTPNYESYSHRLSHIGIILQ 473  
DB 419 FNWRAPLN--SURGSLYITIGYGTGQTFDSLTPETTPBTPNYESYSHRLSHIRLISG 477  
QY 474 SRVNPVYSWTHRSADRTNTIGPNRITQIPMYKASELPQGTTVVRPGFTGDIILRRNT 533  
DB 478 NTLRAPVYSWTHRSADRTNTISSDITQIPLVKSFNLASGTSVSGPGFTGDIILRTNV 537  
QY 534 GGFGRVTVNGPLTORVIRGRYASTVDFFVSRGGTNNPFRPLTMSGDBELKYGN 593  
DB 538 GSVLSMGLNFNTSLQRYRVRVRYAASQTMVLVRVTGSGTTFDQGFPTMSGANESLTSQS 597  
QY 594 FVRRAPFTPTFTQODIIRISIQGLSGNGEVYIDKILIPVATFEAYDIERAQEAVN 653  
DB 598 FRFAEPFVIGISASGSQ--TAGISISNNAKGRQTFHDKIFIPITATLEAESDLERAQKAVN 656  
QY 654 ALFTNTNPRRLKTDVTDHIDOVSNLVAFLSDEFCLDEKRELLKVKYAKLSDBERNLLQ 713  
DB 657 ALFTSSNQIGLKTVDTHIDVSNLVECLSDEFCLDEKRELLKVKYAKLSDBERNLLQ 716  
QY 714 DPNFTSINKQPFISTNEQSNTSIIHSEHGWSGSENIITQEGNDVFKENYVTLPGFTN 773  
DB 717 DPNFRGINRQLD-----RGWRGSTDTITQGGDDVFKENYVTLGGTFD 758  
QY 774 ECPYLYYKIGESLKYATRYOLRGYIEDSDQLEIYLIRYNAKHETLDVPGTSLWPLS 833  
DB 759 ECPYLYYKIGESLKYATRYOLRGYIEDSDQLEIYLIRYNAKHETVNVPGTSLWPLS 818  
QY 834 VESPIRGCEPNRCAPHPFEPWNPDLDCSRDGEKCAHSHHFSLDIDVGCTDLHENLGVV 893  
DB 819 APSPIG-----KCAHSHHFSLDIDVGCTDLHENLGVV 852  
QY 894 VPKITQEQHARLGNLEFIEKPLLGEALSRVKAERKWRDREKLOLETKRVTYEAKEA 953  
DB 853 IFKIKTQGHARLGNLEFIEKPLLGEALSRVKAERKWRDREKLOLETKRVTYEAKEA 912  
QY 954 VDALLFVDSQYDRLOADTHIGHIHAADKLVHRIEAYLSLSELVPIPGVNAIIFEELEGHIT 1013  
DB 913 VDALLFVDSQYDRLOADTHIGHIHAADKLVHRIEAYLSLSELVPIPGVNAIIFEELEGHIT 972  
QY 1014 AISLYDARNVNGKGFNNGLTCNNVKGHVDV--QOSHHSRDLVIPEWAEVSOAVRVCPCG 1072  
DB 973 AFSLYDARNVNGKGFNNGLTCNNVKGHVDV--QOSHHSRDLVIPEWAEVSOAVRVCPCG 1032  
QY 1073 GYLLRVATYKEGCGCVTTIHEIENNTDELKFKNREBEVPTDTGTCDNYTA---HOG 1128  
DB 1033 GYLLRVATYKEGCGCVTTIHEIENNTDELKFKNREBEVPTDTGTCDNYTA---HOG 1092  
QY 1129 TAGCADACNRRNAGYEDAYEDVDTTASVNVKPYTEETVTVRRDNHCEYDRGVNYPVP 1188

DB 1093 T-----YTSNRGVDGAYESSVPADYAAAYBEKATDGRDRNPCCSNGYGYDTFLP 1146  
QY 1189 AGYVTKLEYFPETDTVMWIEIGETEGKFIVDSVELLMEE 1228  
DB 1147 AGYVTKLEYFPETDKVWIEIGETEGTFIVDSVELLMEE 1186  
RESULT 3  
US-09-972-175-59  
; Sequence 59, Application US/09972175  
; Publication No. US20030101482A1  
; GENERAL INFORMATION:  
; APPLICANT: Baum, James A.  
; Gilmer, Amy Jelen  
; Mettus, Anne-Marie Light  
; TITLE OF INVENTION: TRANSGENIC PLANTS EXPRESSING  
; LEPIDOPTERAN-ACTIVE-DELTA-ENDOTOXINS  
; NUMBER OF SEQUENCES: 76  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Arnold, White & Durkee  
; STREET: P.O. Box 4433  
; CITY: Houston  
; STATE: Texas  
; COUNTRY: USA  
; ZIP: 77210  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: Patentin Release #1.0, Version #1.30  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/09/972.175  
; FILING DATE: 05-Oct-2001  
; CLASSIFICATION: <Unknown>  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: 09/337,635  
; FILING DATE: <Unknown>  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Kitchell, Barbara S.  
; REGISTRATION NUMBER: 33,928  
; REFERENCE/DOCKET NUMBER: MECO.206  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: 512/418-3000  
; TELEFAX: 512/474-7577  
; INFORMATION FOR SEQ ID NO: 59:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 1189 amino acids  
; TYPE: amino acid  
; TOPOLOGY: linear  
; MOLECULE TYPE: protein  
; SEQUENCE DESCRIPTION: SEQ ID NO: 59:  
US-09-972-175-59

Query Match 53.9%; Score 3510.5; DB 11; Length 1189;  
Best Local Similarity 58.1%; Pred. No. 5.1e-301;  
Matches 729; Conservative 128; Mismatches 296; Indels 101; Gaps 21;

QY 7 NENEII--NAVSNHSAQMDLLPDARIEDSLCIAEGN-NIDPFVSASTVQTGINTAGILG 63  
DB 5 NQNCIPYCNLSN-----PEVLLDGERISTGNSID--ISLSLVQ-----FLV 46  
QY 64 VLGVPPFAGQLASFYSFLVGLWPRGRDQWEIFLHVHQLNQITENARNTALARLOGLG 123  
DB 47 SNFVPGGFLVGLIDFWGIVGP---SQWDAFLVQIEQLINERIAEFARNAIANLEGLG 103  
QY 124 DSFRAYQOOSLEDWLENRDDARTSVLHTQVIALELDFLNAMPLFAIRNQEVPLLMVYAQA 183  
DB 104 NNFNIYVFAKWEEDNNPATRTRVDRPRILGDLLEDRIPSAISGFEVPLLSVYAQA 163  
QY 184 ANLHLLLRASLFGSFGFLTSQBIQRYEROVERTRDYSDYCVWNTGLNSLRGTAA 243  
DB 164 ANLHLLLRASLFGSFGFLTSQBIQRYEROVERTRDYSDYCVWNTGLNSLRGTAA 223



QY 640 EAEYDLERAQAVNALFTNTNRRKTKDVTVDYHIDOVSNLYACLSDERCLDEKRELEKY 699  
Db 620 EAEYDLERAQAVNALFTSSNGIGUKTKDVTVDYHIDOVSNLYACLSDERCLDEKRELEKY 679  
QY 700 KYAKRLSDERNLLQDPNFTSINKQPDFISTNEQSNFTSIHQSEHGWMGSENIITIQEGND 759  
Db 680 KHAKRLSDERNLLQDPNFRGINRQPD-----RGWGSTDTITIQGDD 721  
QY 760 VPENYVTLPGTFNCEYPTLYYQKIGESLKAATRYQIRGYIEDSQDLEIYLIRYNAKHE 819  
Db 722 VPENYVTLPGTFNCEYPTLYYQKIGESLKAATRYQIRGYIEDSQDLEIYLIRYNAKHE 781  
QY 820 TLDVPGTSLPLSVESPIGRGCEPNRCAPHEWNPDLDCSCRDCEKCAHSHHFTLID 879  
Db 782 IVNVPGTSLPLSAQSPGKCEPNRCAPHEWNPDLDCSCRDCEKCAHSHHFTLID 841  
QY 880 VQCTDLHENLGVVWVFKITQGHARLGNLEFIEBKPLLGALSRVKAERKWRDKREKL 939  
Db 842 VQCTDLNEDLGVVWVFKITQGHARLGNLEFIEBKPLLGALSRVKAERKWRDKREKL 901  
QY 940 QLETKRVTEAKEAVDALFVDSQYDRLOADTNIGMIHAADKLVRHIREAYILSELVPIGV 999  
Db 902 QLETKRVTEAKEAVDALFVDSQYDRLOADTNIGMIHAADKLVRHIREAYILSELVPIGV 961  
QY 1000 NAEIEPEELECHITAIISLYDARNVYKNGDFNGLTCWVVKGHVY-QQSHRSDLVPIEW 1058  
Db 962 NAEIEPEELECHITAIISLYDARNVYKNGDFNGLTCWVVKGHVY-QQSHRSDLVPIEW 1021  
QY 1059 EAEYQAVRVCPGCGYILRVYAYKEGEGCVTTHIEIENNTDELKFKNREBEVYPTDTG 1118  
Db 1022 EAEYQAVRVCPGCGYILRVYAYKEGEGCVTTHIEIENNTDELKFKNREBEVYPTDTG 1081  
QY 1119 TCNDYTA-----HOGTAGCADACNSRNAGYEDAYEVDVTTASVNYKPTYBEETVTVRRDNH 1174  
Db 1082 TCNDYTA-----HOGTAGCADACNSRNAGYEDAYEVDVTTASVNYKPTYBEETVTVRRDNH 1135  
QY 1175 CEYDRGVNYPVPAGYTKLEYEPETDTVWIEIGETEGTFIVDSVLELLMEE 1258  
Db 1136 CESNRGVDYTPLPAGYTKLEYEPETDTVWIEIGETEGTFIVDSVLELLMEE 1189

## RESULT 5

US-09-972-175-2  
; Sequence 2, Application US/09972175  
; Publication No. US20030101482A1  
; GENERAL INFORMATION:  
; APPLICANT: Baum, James A.  
; Gilmer, Amy Jelen  
; Mettue, Anne-Marie Light  
; TITLE OF INVENTION: TRANSGENIC PLANTS EXPRESSING  
; LEPIDOPTERAN-ACTIVE-DELTA-ENDOTOXINS  
; NUMBER OF SEQUENCES: 76  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Arnold, White & Durkee  
; CITY: Houston  
; STATE: Texas  
; COUNTRY: USA  
; ZIP: 77210  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: Patent In Release #1.0, Version #1.30  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/09/972,175  
; FILING DATE: 05-Oct-2001  
; CLASSIFICATION: <Unknown>  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: 09/337,635  
; FILING DATE: <Unknown>  
; ATTORNEY/AGENT INFORMATION:

; NAME: Kitchell, Barbara S.  
; REGISTRATION NUMBER: 33,928  
; REFERENCE/DOCKET NUMBER: MECO:206  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: 512/418-3000  
; TELEFAX: 512/474-7577  
; INFORMATION FOR SEQ ID NO: 2:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 1189 amino acids  
; TYPE: amino acid  
; TOPOLOGY: linear  
; MOLECULE TYPE: protein  
; SEQUENCE DESCRIPTION: SEQ ID NO: 2:  
US-09-972-175-2

Query Match 53.9%; Score 3508.5; DB 11; Length 1189;  
Best Local Similarity 58.1%; Pred. No. 7.7e-301;  
Matches 729; Conservative 128; Mismatches 296; Indels 101; Gaps 21;  
QY 7 NENEII--NAVSNHSAQMDLLPDARIEDSICIAEEN-NIDPFVSASTVQTGINIAGRILG 63  
Db 5 NQNCIPYCNLSN-----PEEVLLDGERISTGNSID--ISLSLVQ-----FLV 46  
QY 64 VLGVPFAGOLASFYSLVGLWPRGRDQWEIFLEHVQOLINQOITENARNVTLARLOGIG 123  
Db 47 SNFVPGGFLVGLIDFVWGIWGP---SOWDAFLVQIEQLINERIAEFAFNAIAANLEGLG 103  
QY 124 DSFRAYQOSLEDLLENDDARTSRVLTQYITALELDFLNAMPFAIRNQEVPLLMVYQA 183  
Db 104 NNFNIVYAEKWEEDENNPAITRVDRFRLDGLLERDIPSAISGFVPLLSVYQA 163  
QY 184 ANHLLLRDASLPGSEFGLTSQEIQRYERQVETRDYSYCVYEWNTGNSLRGTNAA 243  
Db 164 ANHLAILRDSVIFGERWGLTINNVNENYLRIRHIDEYADHCANTYNRGLNLPKSTYQ 223  
QY 244 SWRYNQFRDLTLGLVDLVALFSPYTRTPYNTSAQLTREYVTDGATGVNMAWNNW 303  
Db 224 DWITYNLRRLDLTLVLDIAAFPNYDNRRIYPIQVQQLTREYVTDPL----INFNPQLQ 279  
QY 304 YNNAPFSAIEAAAIRSHLLDPLEQITIFSASSRNSNTRHMTYWRGHTIQSRPIGGGL 363  
Db 280 SVAQLPTFNWESSAIRNPHLFDILANLTIF---TDFSVGRNFWGHRVVISLIGGN 336  
QY 364 NTS--THGATNTSINPVTLRFAASRDVYRTESYAGVLL----WGIYLEPIHGVTYVRFNF-T 417  
Db 337 ITSPYICREANQEPERSFTF-NGVPFRTLSNPTLRLLQQWPAAPPFNLRGVGVFSTPT 395  
QY 418 NPQNISDRGTANYSQPYESPLQLKDSSETLPPTTTPRPNVYESYSHRSLHIGIILQSRVN 477  
Db 396 NSFTYRGRTV-----DSLTELPPEDNSVPPREGYSRHLCHATFV--QRSG 439  
QY 478 VP-----VYSWTHRSADRTNTIGPNRI TOI PMVKASELPQGTTVVRPGGTGDIILRRT 531  
Db 440 TPFLTTCGVFSWTHRSATLNTIDPERINQIPLVKGFVWGGTSVITGPGTGGDIILRRN 499  
QY 532 NTGGFGPIRVTVNGPLTQRYRIGRYASTVDVDFPFVSRGGTTVN-----NFRFLRTMN 584  
Db 500 TFGDFVSLQVNSPITQRYELRFRYASSRDARVILVLTGAASTGVGGGVSNMPLQKTM 559  
QY 585 SGDELKYNFVRRAFTPTFTTQIQDIIRTSIQGLSG-----NGEVYIDKIEIIPVTATF 639  
Db 560 IGENLTSTRTFYTDFSNPFSFRANPDIIGISEQPLFGAGSISSGELVYIDKIEIILADATF 619  
QY 640 EAEYDLERAQAVNALFTNTNPRELKTVDYDHYIDOVSNLYACLSDERCLDEKRELEKY 699  
Db 620 EAEYDLERAQAVNALFTSSNGIGUKTKDVTVDYHIDOVSNLYACLSDERCLDEKRELEKY 679  
QY 700 KYAKRLSDERNLLQDPNFTSINKQPDFISTNEQSNFTSIHQSEHGWMGSENIITIQEGND 759  
Db 680 KHAKRLSDERNLLQDPNFRGINRQPD-----RGWGSTDTITIQGDD 721  
QY 760 VPENYVTLPGTFNCEYPTLYYQKIGESLKAATRYQIRGYIEDSQDLEIYLIRYNAKHE 819

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Db 722 VFKNYVTLPGTVDBCYPTLYQKIDESKLYATRYELRGYIEDSQDLIELYLRNKAHE 781
QY 820 TLDVPGTESLWPLSVESPIGRGCEPNRCAPHFENWPNLDCCRCGEKCAHSHHPSLTDID 879
Db 782 IVNVPGTGLWPLSAQSPIGKGEPNRCAPHLEWPNLDCCRCGEKCAHSHHPSLTDID 841
QY 880 VQCTDLHENLGVVWVFKITQGHARLGNLEFIEBKPLLGALSRVKAERKWRDKREKL 939
Db 842 VQCTDLNEDLGVWVFKITQGHARLGNLEFIEBKPLLGALSRVKAERKWRDKREKL 901
QY 940 QLETKRVVTEAKEAVDALFVDSQYDRQLQADTNIGMHAADKLVRHREAYLSELPVIGV 999
Db 902 QLETNIVYKEAKESVDALFVNSQYDRQLQADTNIGMHAADKLVRHREAYLSELPVIGV 961
QY 1000 NAEIFEELEGHITAIISLYDARNVVKNGDFNNGLTCWNVKGHDV-QQSHRSDLVPEW 1058
Db 962 NAEIFEELEGRIFTAYSILYDARNVVKNGDFNNGLTCWNVKGHDVVEEQNNHRSVLVPEW 1021
QY 1059 EAEVSQAVRVCPGCGYILRVYATYKEGYGEGCVTHIEIENNTDELKFNREBEVYPTDG 1118
Db 1022 EAEVSQAVRVCPGCGYILRVYATYKEGYGEGCVTHIEIENNTDELKFNREBEVYPTDG 1081
QY 1119 TCNDVTA---HOGTAGCADACNRSNAGYEDAYEDVDTTASVNYKPTYEEYTVDRDNH 1174
Db 1082 TCNNTYGTQEEYEGT-----YTSRNGQYDEAYGNPSPADYASVYBEKSYTDGRREN 1135
QY 1175 CEYDRGVNYPVPAGYVTKLEYEPETDVTWIEIGETEGKFI VDSVLLMEE 1228
Db 1136 CESNRGXYGDTPLPAGYVTKLEYEPETDVKWIEIGETEGKFI VDSVLLMEE 1189

RESULT 6
US-10-200-522-2
; Sequence 2, Application US/10200522
; Publication No. US20030195336A1
; *GENERAL INFORMATION:
; APPLICANT: Baum, James A.
; APPLICANT: Gilmer, Amy Jelen
; APPLICANT: Mettus, Anne Marie Light
; TITLE OF INVENTION: NUCLEIC ACID AND POLYPEPTIDE COMPOSITIONS ENCODING LEPIDOPTERAN-T
; FILE REFERENCE: MECO:213 (11792.0213 DVUS01)
; CURRENT APPLICATION NUMBER: US/10/200,522
; CURRENT FILING DATE: 2002-07-22
; PRIOR APPLICATION NUMBER: 09/337,280
; PRIOR FILING DATE: 1999-06-22
; PRIOR APPLICATION NUMBER: 08/980,071
; PRIOR FILING DATE: 1997-11-26
; PRIOR APPLICATION NUMBER: 08/757,536
; PRIOR FILING DATE: 1996-11-27
; NUMBER OF SEQ ID NOS: 76
; SOFTWARE: Patent in version 3.1
; SEQ ID NO 2
; LENGTH: 1189
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Recombinant Delta Endotoxin
US-10-200-522-2

Query Match 53.9%; Score 3508.5; DB 12; Length 1189;
Best Local Similarity 58.1%; Pred. No. 7.7e-301;
Matches 729; Conservative 128; Mismatches 296; Indels 101; Gaps 21;

QY 7 NENEII--NAVSNHSAQMDLLPARIEDSLCIAEGN-NIDPFVSASTVGTGINAGRILG 63
Db 5 NQNCQIPYNCLSN-----PEEVLLDGERISTGNSSID--ISLSLVQ-----FLV 46
QY 64 VLGVPPAGQALAFYSFLVCELWPRGRDQWEI FLEHVEQLINQOITENARNTALRLOGLG 123
Db 47 SNFVPGGGFLVGLIDFVWVGIVG---SQWDAFLVQIEQLINERIAEFARNAAIANLEG 103
QY 124 DSRFAYQQSLEDWLENRDDARTSRVLTQVIALELDFLNA MPLFAIRNQEVLVYQA 183

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Db 104 NNFNIVYAEKFEWEDNNPATRVIDRPRILDGLLERDIPSPFAISGFVPLLSVYQA 163
QY 184 ANLHLLLRDASLFGSEFGLTSQEIQRYYERQVERTRDYSQYCVWNTGLNSLRGINAA 243
Db 164 ANLHLLLRDASLFGSEFGLTSQEIQRYYERQVERTRDYSQYCVWNTGLNSLRGINAA 223
QY 244 SWRYNFRDRLTLGLVLDLVALPSPYDTRTPYINTSAQLTRVYVYDAIGATGVNMAAMW 303
Db 224 DWITYNRLRDLTLVLDIAAFPNYDNRYPQVQQLTRVYVYDPL----INFNPQLQ 279
QY 304 YNNNAPSFAIEAAAIRSPHLLDFLEQLTIFSSASSRNSNTRHMTYWRGHTIQSRPIGGL 363
Db 280 SVAQLPTFNWESSAIRNPHLFDILNLTIF---TDFSVGRNFGWGRHVRVSSILGCGN 336
QY 364 NTS-THGATNTSINPVLTRFASRDVYTESYAGVLL---WGIYLEPIHGVPYTRFNP-T 417
Db 337 ITSPIYGREANQEBPSPFTF-NGEVFRTLNPTRLQLQWPAAPPFLNRGVEGVESPTPT 395
QY 418 NPQNISDRGTANYSQPYESPGLQKDSSETLPPETTERPNVYESYSHRLSHIGIILQSRVN 477
Db 396 NSFTYRGRTV-----DSLTELPPEDNSVPREGYSHRLCHATFV--QRSG 439
QY 478 VP-----VYSWTHRSADRNTNIGPNRITQIPMYKASELPQGTTVVRGPGTGGDILART 531
Db 440 TPELTGTVFWSWTHRSATLNTIDPERINQIPLVKFPRVWGTSVITGPGTGGDILARN 499
QY 532 NTGCGFIRTVNGPLTQRYRIGPRYASTVDFDFVSRGGTTVN-----NFRFLRNMN 584
Db 500 TFGDFVSLQVNNINSPIQRYRLFRYASRRDARVILVTGAASVGVGGQVSNMPLQKTIME 559
QY 585 SGDELKYNFVRRAFTPTFTQIQDIIRTSIQGLSG-----NGEVYIDKIEIIPVTATF 639
Db 560 IGENLTSRTFRYTDSPNPFSPRANPDIIIG:SEQPLFGAGSISSGELYIDKIEIILADATF 619
QY 640 EAEYDLERAQAVNALFTNTNPRELKTVDYHIDQVSNLVACLSDFCLDEKRELEKV 699
Db 620 EAEYDLERAQAVNALFTSSNQIGLKTVDYHIDQVSNLVACLSDFCLDEKRELEKV 679
QY 700 KYAKRLSDERNLLQDPNFTSINKQDPFISITNEQSNFTSIHQSEHGHWGSENIITQEGND 759
Db 680 KHAKRLSDERNLLQDPNFRGINRQPD-----RGMRGSTDTITIQGGDD 721
QY 760 VFKNYVTLPGTFNECYPTLYQKIDESKLYATRYELRGYIEDSQDLIELYLRNKAHE 819
Db 722 VFKNYVTLPGTVDBCYPTLYQKIDESKLYATRYELRGYIEDSQDLIELYLRNKAHE 781
QY 820 TLDVPGTESLWPLSVESPIGRGCEPNRCAPHFENWPNLDCCRCGEKCAHSHHPSLTDID 879
Db 782 IVNVPGTGLWPLSAQSPIGKGEPNRCAPHLEWPNLDCCRCGEKCAHSHHPSLTDID 841
QY 880 VQCTDLHENLGVVWVFKITQGHARLGNLEFIEBKPLLGALSRVKAERKWRDKREKL 939
Db 842 VQCTDLNEDLGVWVFKITQGHARLGNLEFIEBKPLLGALSRVKAERKWRDKREKL 901
QY 940 QLETKRVVTEAKEAVDALFVDSQYDRQLQADTNIGMHAADKLVRHREAYLSELPVIGV 999
Db 902 QLETNIVYKEAKESVDALFVNSQYDRQLQADTNIGMHAADKLVRHREAYLSELPVIGV 961
QY 1000 NAEIFEELEGHITAIISLYDARNVVKNGDFNNGLTCWNVKGHDV-QQSHRSDLVPEW 1058
Db 962 NAEIFEELEGRIFTAYSILYDARNVVKNGDFNNGLTCWNVKGHDVVEEQNNHRSVLVPEW 1021
QY 1059 EAEVSQAVRVCPGCGYILRVYATYKEGYGEGCVTHIEIENNTDELKFNREBEVYPTDG 1118
Db 1022 EAEVSQAVRVCPGCGYILRVYATYKEGYGEGCVTHIEIENNTDELKFNREBEVYPTDG 1081
QY 1119 TCNDVTA---HOGTAGCADACNRSNAGYEDAYEDVDTTASVNYKPTYEEYTVDRDNH 1174
Db 1082 TCNNTYGTQEEYEGT-----YTSRNGQYDEAYGNPSPADYASVYBEKSYTDGRREN 1135
QY 1175 CEYDRGVNYPVPAGYVTKLEYEPETDVTWIEIGETEGKFI VDSVLLMEE 1228

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Db 1136 CESNRGVDYTPLPAGYVTKDLEYFPETDKVWIEIGETEGTFFIVDSVELLMEE 1189

RESULT 7

US-09-873-873-10

; Sequence 10, Application US/09873873

; Patent No. US20020064865A1

; GENERAL INFORMATION:

; APPLICANT: Malvar, Thomas

; TITLE OF INVENTION: Polynucleotide Compositions Encoding Broad-Spectrum S-Endotoxins

; FILE REFERENCE: MECO:210--2

; CURRENT APPLICATION NUMBER: US/09/873,873

; PRIORITY FILING DATE: 2001-08-20

; PRIOR APPLICATION NUMBER: US 09/253,341

; PRIOR FILING DATE: 1999-02-19

; PRIOR APPLICATION NUMBER: US 08/922,505

; PRIOR FILING DATE: 1997-09-03

; PRIOR APPLICATION NUMBER: US 08/754,490

; PRIOR FILING DATE: 1996-11-20

; NUMBER OF SEQ ID NOS: 35

; SOFTWARE: PatentIn version 3.0

; SEQ ID NO 10

; LENGTH: 1177

; TYPE: PRT

; ORGANISM: Artificial Sequence

; FEATURE:

; OTHER INFORMATION: Hybrid Delta-Endotoxin

US-09-873-873-10

Query Match 53.8%; Score 3508; DB 9; Length 1177;

Best Local Similarity 57.9%; Pred. No. 8.4e-301;

Matches 721; Conservative 128; Mismatches 305; Indels 92; Gaps 18;

QY 4 NRKNEEII--NAVSNHSAQMDLLDPADIEDSLCIAEGNNIDPPFVSASTVOTGGINIAGRI 61

Db 3 NNPNEICEIPYNCLSN--PEVEVLGERIE-----TGYPIDISLSL 42

QY 62 LGVL---GVPPAGQALASVFLVGLWLP--RGDQWEIFLEHVEQLINQOITENARNTALA 117

Db 43 TQFLSEFPVGAG---FVLGLVDIINGFIPGSQWDAFLVQIEQLINQRIEFAFNQAIAS 98

QY 118 RLOGGDSFRAYQOQSLWLENRRDDARTSVLHTQYIALELDFLNAPLFAIRNOEVDLL 177

Db 99 RLEGSLNLYQIYAESFRWEADPTNPALREEMRIQFNDMSALTTAIFLFAVQNYQVPLL 158

QY 178 MYVQAANLHLLLDASLFGSEGLTSGEIQRYVERQVTRDYSDYCEWYNTGLNSL 237

Db 159 SVYVQAANLHLSVLDSVFGQWGFDAATINSRYNDLTRIGNYTDYAVRWYNTGLERV 218

QY 238 RGTNAASWVRYNQFRDLTLGLVDLVALFPSPYDTRTPINTSAQLTRREYVYTDAGATVN 297

Db 219 WGPDSRDWVRYNQFRDLTLGLVDLVALFPSPYDTRTPINTSAQLTRREYVYTDAGATVN 270

QY 298 MASWNNYNNAPSPSAIEAAIRSHPLDLEQLTIFPSASSRWSNTRMTWRTGHTIOSR 357

Db 271 PVLENFDGSGFRGSAQIE--RSIRSHPLMDILNSITITTDH-----RGYYWWSGHIQMAS 324

QY 358 PIGGGLNTSTHCAWTNSINPV-----TLRFASRDVYRTES---YAGVLLWGLVLEPIHGPV 410

Db 325 PVFGSGPFPFLYXTMGNAAPQQRIVAQLGGVYRTLSSTLYRRPFFNINQOOLSULD 384

QY 411 TVRFNFTNPQNISDRGTANYSPQYSPGLQKDSLETPPETTERPNYESYSHRLSHIGI 470

Db 385 GTEFAYGTSSNLP-----SAVYKSG--TVDSLDEIPQNNVPPRQGFSHRLSHVSM 435

QY 471 ILQ-----SKVNVVSVWTHRSADRTNTIGPNRITQIPWKASSELPGQTVVRGPGFT 523

Db 436 FRSGFSNSVSTIRAPMFWSHRSATPTNTIDPERITQIPVKAHTLQSGTIVVRGPGFT 495

QY 524 GGDILRRNTGCGFPIRVTVNGPLTORVIRGRYASTVDFPFVSRGGTIVNNRFLRTM 583

Db 496 GGDILRRNTGCGFPIRVTVNGPLTORVIRGRYASTVDFPFVSRGGTIVNNRFLRTM 555

QY 584 NSGDELKYGKGNFVRRAFTPTPTFTQIIRTSIOGLSGNGEVYIDKIIIIIVTATFEAEY 643

Db 556 DTGDLPTFQSFYSYATINTAFTFPMSSQSFYTGADTFSSGNEVYIDRELIIVTATFEAEY 615

QY 644 DLERAQAVNALFTNTNPRRLKTDVTHIDQVNLVACLSDFCLEKREKLEKVKYAK 703

Db 616 DLERAQAVNALFTSIQIGIKTDVTHIDQVNLVACLSDFCLEKREKRELSKVRHAK 675

QY 704 RLSDERNLQDPNFTSINKQPDFISTNEQSNFTSIHQSEHGWMGSENITIQEGNDVPKE 763

Db 676 RLSDERNLQDPNFKGINRLD-----RGRGSTDTIQRGDDVPKE 717

QY 764 NYVTLPCTFNECYPTLYLQKIGSELSKAYTRYQLRGVIEDSQDLIELYLIRNAKHETLDV 823

Db 718 NYVTLPCTFDECYPTLYLQKIDESKLAFTRYQLRGVIEDSQDLIELYLIRNAKHETVNV 777

QY 824 PGTESLWPLSVESPIGRGEPNRCAPHFNWPDLDCCSDGCEKCAHSHHFLSDIDVGCT 883

Db 778 PGTGLWPLSAQSPFSGKGPNCAPHLEWNPDLDCSCRDGKCAHSHHFLSDIDVGCT 837

QY 884 DLHENLGVVWVFKIKTOEGHARLGNLEFIEBKPLLGALSVKRAEKKWRDKRKLQLET 943

Db 838 DLNEDLGWVWIFIKIKTOEGHARLGNLEFIEBKPLVGELARVKAEEKWRDKRKLWET 897

QY 944 KRVYTEAKEAVDALFVDSQYDRLQADTNIGMIHAADKLVHRIREAYISELPIVPGVNAEI 1003

Db 898 NIVYKEAKESVDALFVNSQYDQLQADTNIAHAAKRVHSIREAYLPELSVPGVNAAI 957

QY 1004 FEELEGHITAI SLVDARNVVGKGFNNGLTCVNVKGVHDV--QSSHRSDLVIVPEWEAEV 1062

Db 958 FEELEGRIFTAFLYDARNVVGKGFNNGLSCWNVKGVHDVVEEQNNQSRVLLVPEWEAEV 1017

QY 1063 SQAVRVCPCGGYILRVTAKEGYGEGCVTHIEIENNTDELKFNKREBEVYPTDTGTCD 1122

Db 1018 SQAVRVCPCGGYILRVTAKEGYGEGCVTHIEIENNTDELKFNKREBEVYPTDTGTCD 1077

QY 1123 YTAHQGTAGCADCNSRNAGYEDAYEYDVTASVNNKPYESETYTVDRDNHCEYDRGV 1182

Db 1078 YTVNQEEVG--GAVTSRNRGYNEAPSV----PADYASVYEKSVYTDGRRENPCFNRGYR 1131

QY 1183 NYPPVPAGYVTKLEYFPETDKVWIEIGETEGTFFIVDSVELLMEE 1228

Db 1132 DYTLPLPGYVTKLEYFPETDKVWIEIGETEGTFFIVDSVELLMEE 1177

RESULT 8

US-09-873-873-12

; Sequence 12, Application US/09873873

; Patent No. US20020064865A1

; GENERAL INFORMATION:

; APPLICANT: Gilmer, Amy Jelen

; APPLICANT: Malvar, Thomas

; TITLE OF INVENTION: Polynucleotide Compositions Encoding Broad-Spectrum S-Endotoxins

; FILE REFERENCE: MECO:210--2

; CURRENT APPLICATION NUMBER: US/09/873,873

; CURRENT FILING DATE: 2001-08-20

; PRIOR APPLICATION NUMBER: US 09/253,341

; PRIOR FILING DATE: 1999-02-19

; PRIOR APPLICATION NUMBER: US 08/922,505

; PRIOR FILING DATE: 1997-09-03

; PRIOR APPLICATION NUMBER: US 08/754,490

; PRIOR FILING DATE: 1996-11-20

; NUMBER OF SEQ ID NOS: 35

; SOFTWARE: PatentIn version 3.0

; SEQ ID NO 12

; LENGTH: 1177

; TYPE: PRT

; ORGANISM: Artificial Sequence

; FEATURE:

; OTHER INFORMATION: Hybrid Delta-Endotoxin

US-09-873-873-12



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Db 325 PVGSGPEFTPLVGTGMAAQQRIVAQLGQGVYRTLSLTYRRPFGINNOQLSVLD 384
Qy 411 TVRFNFTNPQISDRGTANYSPQSPGLQKDSSETLPPTTERPNVYESYSHRLSHGI 470
Db 385 GTEFAYGTSSNLP-----SAVYKSG--TVDSLDEIPQNNVPPRQGSFSLSHVSM 435
Qy 471 ILQ-----SRVNPVYSWTHRSADRTNITGPNRITQIPMKASELPQGTTVVRGPGFT 523
Db 436 FRSGFSNSSVSIIRAPFESWTHRSATPTNTIDPERITQIPLVKAHTLQSGTTVVRGPGFT 495
Qy 524 GGDILRRTNTGGFPIRVTVNGPLTQRYRIGFYASTVDFDFVSRGGTTVNNFRFLRTM 583
Db 496 GGDILRRTSGGPFAYTVINGQLPQYRARIYASTTNLRIYTVVAGERIPACQFNKTM 555
Qy 584 NSGDELKGNFVRRAFTPTFTQIQDIIRTSIQGLSGNGEVYIDKIEIIPVATFEABY 643
Db 556 DTGDLPTFQSFVSATINTAFTFPMSSQSFVTGADTFSSGNEVYIDRFELIIPVATFEABY 615
Qy 644 DLERAQAVNALFTNTNPRRLKTDVTDYHIDQVSNLVACLSDPCLDEKRELLKVKYAK 703
Db 616 DLERAQAVNALFTSINOIGIKTDVTDYHIDQVSNLVACLSDPCLDEKRELLKVKYAK 675
Qy 704 RLSDERNLLODPNFTSINKQDPFISTNEQSNFTSIHQSEHGWGSENIITQEGNDVPKE 763
Db 676 RLSDERNLLODPNFKGNRLD-----RCWRGSTDTIITQRGDDVPKE 717
Qy 764 NYVTLPCTFNECPTYLYQKIGESLKYTRYQLRGYIEDSODLEIYLIRYNAKHETLDV 823
Db 718 NYVTLPCTFDECYPTLYQKIDESKLKAFTRYQLRGYIEDSODLEIYLIRYNAKHETVNV 777
Qy 824 PGTESLWPLSVESPIGRCEPNRCAPHFEMWPDLDSCRDGCKCAHSHHFLSDIDVCGT 883
Db 778 PGTGLWPLSAQSPIGKCGEPNRCAPHLEWPDLDSCRDGCKCAHSHHFLSDIDVCGT 837
Qy 884 DLHNLGVVWFKITQBGHARLGNLEFIEBKPLLEGEALSRVKRAEKKWRDKREKLOLET 943
Db 838 DLNEDLGVVWFKITQBGHARLGNLEFIEBKPLLEGEALSRVKRAEKKWRDKREKLEWET 897
Qy 944 KRVTYEAKEANDALFVDSQYDRLOADTNIGMIHAADKLVRHIREAYLSELVPIPGVNAEI 1003
Db 898 NIVYKEAKESVDALFVNSQYDQLOQADTNIAIHAADKRVHSIREAYLPELSVPIGVNAAI 957
Qy 1004 FEELGHIITALSVDARVVKNGDFNGLTCWNVKGVHV--QOSHRSDLVISEWEABV 1062
Db 958 FEELGRIPTAFSLYDARVVKNGDFNGLSCWNVKGVHVDEQNNQNSVLVPEWEABV 1017
Qy 1063 SOAVRVCPCGVILRYAYKEGYGCGVYTHIENNTDELKFNREBEVYPTDGTGND 1122
Db 1018 SQEVRVCGRGVILRYAYKEGYGCGVYTHIENNTDELKFNREBEVYPTDGTGND 1077
Qy 1123 YTAHQGTAGCADAACNSRAGYEDAYEVDTTASVNYKPTYEBETVYDVRDNHCEYDRGV 1182
Db 1078 YTVNQEYGV--GAYTSRNGYNEAPSV---PADYASVYEKSYTDGRENPCFENRGYR 1131
Qy 1183 NYPPVACGVTKLEYEYFETDVTWIEIGETGKFFIVDSVELLMBE 1228
Db 1132 DYTPLPVGVTKLEYEYFETDVTWIEIGETGKFFIVDSVELLMBE 1177

```

RESULT 10

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US-09-997-914-10
; Sequence 10, Application US/09997914
; Publication No. US20030119158A1
; GENERAL INFORMATION:
; APPLICANT: Malvar, Thomas
; APPLICANT: Gilmer, Amy Jelen
; TITLE OF INVENTION: Polynucleotide Compositions Encoding Broad Spectrum d-Endotoxins
; FILE REFERENCE: 11792.0215.DVUS01 MECO:215--1
; CURRENT APPLICATION NUMBER: US/09/997,914
; CURRENT FILING DATE: 2001-11-30
; PRIOR APPLICATION NUMBER: US 09/261,040
; PRIOR FILING DATE: 1999-03-02
; PRIOR APPLICATION NUMBER: US 08/754,490

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; PRIOR FILING DATE: 1996-11-20
; NUMBER OF SEQ ID NOS: 30
; SOFTWARE: Patent in version 3.0
; SEQ ID NO 10
; LENGTH: 1177
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Hybrid Delta-Endotoxin
US-09-997-914-10

Query Match      53.8%; Score 3508; DB 11; Length 1177;
Best Local Similarity 57.9%; Pred. No. 8.4e-301; Indels 92; Gaps 18;
Matches 721; Conservative 128; Mismatches 305;

Qy 4 NKRNEHII--NAVSNHSAQMDLLPARDIADSLCIAEGNNIDPFVSASTVQTGINIAGRI 61
Db 3 NNPINEICIPYNCLSN--PEVEVLGGERIE-----TGYPIDISLSL 42

Qy 62 LGVL---GVPPAGQLASFYSFLVGLWLP-RGRDQWEIPLFHVQELINQOITENARNTALA 117
Db 43 TQFLLSBFVPGAG---FVLGLVDIHWGIFGFSQWDAFLVQIOELINQRIEFAFNQAIS 98

Qy 118 RLOGLGDSFRAYQOSLEDWLENRRDARTSRVLHTQYIALELDFLNAMPLFAIRNOEVPULL 177
Db 99 RLEGSLNLYQIYAESFREWEADPTNPALREEMRIQFNDMSALTTAIPFAVQNYQVPULL 158

Qy 178 MVYAQAANLHLLLRDASLFGSEFGLTSQETQRYRYERQVETRDYSDYCVWEYNTGLNSL 237
Db 159 SVYVQAANLHLSVLRDVSVFGQWGFDAATINSRYNDLTRLIGNYTDYAVRWYNTGLERV 218

Qy 238 RGTNAASWRYNQPRDLTLGLVDLVALFPSYTRTPYINTSAQLTRVYTDALGATGVN 297
Db 219 WGPDSRDWRYNQPRRLTLTVLDIVALFNYDSRRYPRTVSQLTREIYT-----N 270

Qy 298 MASNNWNNNAPSATIAAAIRSPHLLDLEQLTIFASSRWNTNTHMTWRGHTIOSR 357
Db 271 PVLENFGDSFRGSAQIGIE-RSIRSPHMLDILNSITIYTDH-----RGYYWSGHQINAS 324

Qy 358 PIGGLLNTSHGATNTSINPV---TLRFASRDVYRTES---YAGVLLWGLYLPPIHGV 410
Db 325 PVGSGPEFTPLVGTGMAAQQRIVAQLGQGVYRTLSLTYRRPFGINNOQLSVLD 384

Qy 411 TVRFNFTNPQISDRGTANYSPQSPGLQKDSSETLPPTTERPNVYESYSHRLSHGI 470
Db 385 GTEFAYGTSSNLP-----SAVYKSG--TVDSLDEIPQNNVPPRQGSFSLSHVSM 435

Qy 471 ILQ-----SRVNPVYSWTHRSADRTNITGPNRITQIPMKASELPQGTTVVRGPGFT 523
Db 436 FRSGFSNSSVSIIRAPFESWTHRSATPTNTIDPERITQIPLVKAHTLQSGTTVVRGPGFT 495

Qy 524 GGDILRRTNTGGFPIRVTVNGPLTQRYRIGFYASTVDFDFVSRGGTTVNNFRFLRTM 583
Db 496 GGDILRRTSGGPFAYTVINGQLPQYRARIYASTTNLRIYTVVAGERIPACQFNKTM 555

Qy 584 NSGDELKGNFVRRAFTPTFTQIQDIIRTSIQGLSGNGEVYIDKIEIIPVATFEABY 643
Db 556 DTGDLPTFQSFVSATINTAFTFPMSSQSFVTGADTFSSGNEVYIDRFELIIPVATFEABY 615

Qy 644 DLERAQAVNALFTNTNPRRLKTDVTDYHIDQVSNLVACLSDPCLDEKRELLKVKYAK 703
Db 616 DLERAQAVNALFTSINOIGIKTDVTDYHIDQVSNLVACLSDPCLDEKRELLKVKYAK 675

Qy 704 RLSDERNLLODPNFTSINKQDPFISTNEQSNFTSIHQSEHGWGSENIITQEGNDVPKE 763
Db 676 RLSDERNLLODPNFKGNRLD-----RCWRGSTDTIITQRGDDVPKE 717

Qy 764 NYVTLPCTFNECPTYLYQKIGESLKYTRYQLRGYIEDSODLEIYLIRYNAKHETLDV 823
Db 718 NYVTLPCTFDECYPTLYQKIDESKLKAFTRYQLRGYIEDSODLEIYLIRYNAKHETVNV 777

Qy 824 PGTESLWPLSVESPIGRCEPNRCAPHFEMWPDLDSCRDGCKCAHSHHFLSDIDVCGT 883

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Db 778 PGTGSLWPLSAQSPGKCGEPCNRCAPHLEWNPDLDCSCDGEKCAHSHHFLSDIDVGCT 837
Qy 884 DLHENLGVVWVFKITQSGHARLGNLEFIEKPLLGALSVKRAEKKWRDKREKLEQLE 943
Db 838 DLNEDLGVWVFKITQSGHARLGNLEFIEKPLVGEALARKVRAEKKWRDKREKLEWET 897
Qy 944 KRVYTEAKEAVDALFVDSQYDRLOADTNIGMHAADKLVHRIEAYLSELVPIGVNAEI 1003
Db 898 NIVYKEAKESVDALFVNSQYDQADTNIAHAAKRVHSHREAYLPELSVPIGVNAEI 957
Qy 1004 FEELEGHITAIISLYDARNVKNNGFNGLTCWNVKGVHDV-QQSHHRSDDLVIPEWEAEV 1062
Db 958 FEELEGHITAFSLYDARNVKNNGFNGLSCWNVKGVHDVEEQNNQSVLVPEWEAEV 1017
Qy 1063 SQAVRCPGCGYILRVYAYKEGYGEGCVTHIEENNTDELKFKNREBEVYPTGTGCTND 1122
Db 1018 SQEVRVCPGCGYILRVYAYKEGYGEGCVTHIEENNTDELKFKNREBEVYPTGTGCTND 1077
Qy 1123 YTAHQGTAGCADACNRSNAGYEDAYEDVDTTASVNYKPYEBETVYDVRDNHCEYDRGV 1182
Db 1078 YTVNQEEYG--GAYTSRNRYNEAPSV---PADYASVYEEKSYTDGRRNCPENRGYR 1131
Qy 1183 NYPPVAGYVTKLEYFPETDTVMIEIGETGKFFIVDSVELLME 1228
Db 1132 DYTPLPVGYVTKLEYFPETDKVWIEIGETGTFIVDSVELLME 1177

RESULT 11
US-09-997-914-12
; Sequence 12, Application US/09997914
; Publication No. US20030119158A1
; GENERAL INFORMATION:
; APPLICANT: Gilmer, Amy Jelen
; APPLICANT: Malvar, Thomas
; TITLE OF INVENTION: Polynucleotide Compositions Encoding Broad Spectrum d-Endotoxins
; * FILE REFERENCE: 11792.0215.DVUS01 MECO:215--1
; CURRENT APPLICATION NUMBER: US/09/997,914
; CURRENT FILING DATE: 2001-11-30
; PRIOR APPLICATION NUMBER: US 09/261,040
; PRIOR FILING DATE: 1998-03-02
; PRIOR APPLICATION NUMBER: US 08/754,490
; PRIOR FILING DATE: 1996-11-20
; NUMBER OF SEQ ID NOS: 30
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 12
; LENGTH: 1177
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Hybrid Delta-Endotoxin
US-09-997-914-12

Query Match 53.8%; Score 3508; DB 11; Length 1177;
Best Local Similarity 57.9%; Pred. No. 8.4e-301;
Matches 721; Conservative 128; Mismatches 305; Indels 92; Gaps 18;

Qy 4 NKRKNEI1--NAVSNHSAQMDLLPDARIEDSICIAEGNNIDPFVSASVQTGINAGRI 61
Db 3 NNPINIECPYNCLSN--PEVEVLGGERIE-----TGYTPIDISLSL 42
Qy 62 LGVL---GVFFAGQLASFSYFLVGLWLP--RGRDQWEIFLEHVEQLINQOITENARNTALA 117
Db 43 TQPLLSEFPVAG--FVLGLVDLIINGIFGFSQWDAFLVQIEQLINQRIEFARNQAI 98
Qy 118 RLOGGDSFRVQOQSLIEDWLENRDDATRSVLHTQVIALEFLNMPLEFATRNQEVPLL 177
Db 99 RLEGLSNLYQIAESFREWEADPTNPALREEMRIQFNDMNSALTTPAIPFAVQNYQVPLL 158
Qy 178 MYVQAANLHLLLRDASLFGSEFGLTSQEIQRYYERQVETRDYSDCYVEMVNTGLNSL 237
Db 159 SVTVQAANLHLSVLRDVSFGQWGFDAATINSRYNDLTRLGNITYDYAVRWNTGLERV 218
Qy 238 RGTNAASWVRYNQFRDLTLGLVDLVALFPFSDYTRTPINTSAQLTRVYTDATGATGVN 297
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RESULT 12  
US-09-997-914-14  
; Sequence 14, Application US/09997914  
; Publication No. US20030119158A1  
; GENERAL INFORMATION:

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Db 219 WGPDSRDWVRYNQFRRELTLTLDIVLAFNFDYSSRRYPITVSQLTREIYT-----N 270
Qy 298 MASWNVNNNAPSFAISAEAAAIESPHLLDLEOLTIFSSASSRWSNRTHMTYWRGHTIQSR 357
Db 271 PVLENFPGSRGSAQIE--RSIRSPHLMDILNSITITDAH-----RGYYWSGHQIMAS 324
Qy 358 PIGGLLNTSHGATNTSINPV---TLRFASRDYVRITES---YAGVLLWGIYLEPIHGVP 410
Db 325 PVGFSGPEFTPLPYGTGNGNAAPOORIVAQLGQGYRTLSLTYRRPNININQQLSVLD 384
Qy 411 TVRPNFTNPONISDRGTANYQPYESGLQKQSELPKQSELPETTERPNYESSHRLSHIGI 470
Db 385 GTEPAYCTSSNLP-----SAVYRKSQ--TVDSLDEIPQNNVPPROGFSHRLSHVSM 435
Qy 471 ILQ-----SRVNVVYSWTHRSADRTNTIGNRITQIPMKASELPQGTTVVRGPGFT 523
Db 436 FRSGFSNSVSIIRAPMFSWTHRSATNTIDPERITQIPLVKAHTLOSGTTVVRGPGFT 495
Qy 524 GGDILRNTNGGFGPIRVTVNGPLTQRYRIGFRYASTVDFDFVSRGGTTVNNFRFLRTM 583
Db 496 GGDILRNTSGPPFAYTIVNINGQLPQRYARIRYASTTNLRIYVTVAGERIFACQFNKTM 555
Qy 584 NSGDELKYNFVRRAFTPTFTQIQDIIRTSQGLSGNCEVYIDKIEIIPVATPAEAY 643
Db 556 DTGDPLTFQSFVSATINTAFTFPMSSQSFTVGADTFSSGNEVYIDREFIIPVATPAEAY 615
Qy 644 DLERAQAVNALFTNTNPRRLKTDVTDYHIDQVSNLVACLSDEFCLBEKELLEKVKYAK 703
Db 616 DLERAQAVNALFTSINQIGIKTDVTDYHIDQVSNLVACLSDEFCLBEKELSEKVKYAK 675
Qy 704 RLSDERNLQDPNFTSINKQPDFISTNEQSNFTSIHEQSEHGWMGSENITIQEGNDVPKE 763
Db 676 RLSDERNLQDPNFKGNRQLD-----RGWRGSTDITIQRGDDVPKE 717
Qy 764 NYVTLPGTNFCYTYLYQKIGESLAKAYTRYQLRGVIEDSODLEIYLIRNAKHETLDV 823
Db 718 NYVTLPGTDECYTYLYQKIDESKLAFTRYQLRGVIEDSODLEIYLIRNAKHETVNV 777
Qy 824 PGTESLWPLSVESPIGRGEPNRCAPHFENWPDLDSCDGEKCAHSHHFLSDIDVGCT 883
Db 778 PGTGSLWPLSAQSPGKCGEPCNRCAPHLEWNPDLDCSCDGEKCAHSHHFLSDIDVGCT 837
Qy 884 DLHENLGVVWVFKITQSGHARLGNLEFIEKPLLGALSVKRAEKKWRDKREKLEQLE 943
Db 838 DLNEDLGVWVFKITQSGHARLGNLEFIEKPLVGEALARKVRAEKKWRDKREKLEWET 897
Qy 944 KRVYTEAKEAVDALFVDSQYDRLOADTNIGMHAADKLVHRIEAYLSELVPIGVNAEI 1003
Db 898 NIVYKEAKESVDALFVNSQYDQADTNIAHAAKRVHSHREAYLPELSVPIGVNAEI 957
Qy 1004 FEELEGHITAIISLYDARNVKNNGFNGLTCWNVKGVHDV-QQSHHRSDDLVIPEWEAEV 1062
Db 958 FEELEGHITAFSLYDARNVKNNGFNGLSCWNVKGVHDVEEQNNQSVLVPEWEAEV 1017
Qy 1063 SQAVRCPGCGYILRVYAYKEGYGEGCVTHIEENNTDELKFKNREBEVYPTGTGCTND 1122
Db 1018 SQEVRVCPGCGYILRVYAYKEGYGEGCVTHIEENNTDELKFKNREBEVYPTGTGCTND 1077
Qy 1123 YTAHQGTAGCADACNRSNAGYEDAYEDVDTTASVNYKPYEBETVYDVRDNHCEYDRGV 1182
Db 1078 YTVNQEEYG--GAYTSRNRYNEAPSV---PADYASVYEEKSYTDGRRNCPENRGYR 1131
Qy 1183 NYPPVAGYVTKLEYFPETDTVMIEIGETGKFFIVDSVELLME 1228
Db 1132 DYTPLPVGYVTKLEYFPETDKVWIEIGETGTFIVDSVELLME 1177
```

```
; APPLICANT: Malvar, Thomas
; APPLICANT: Gilmer, Amy Jelen
; TITLE OF INVENTION: Polynucleotide Compositions Encoding Broad Spectrum d-Endotoxins
; FILE REFERENCE: 11792.0215.DVUS01 MECO:215--1
; CURRENT APPLICATION NUMBER: US/09/997,914
; CURRENT FILING DATE: 2001-11-30
; PRIOR APPLICATION NUMBER: US 09/261,040
; PRIOR FILING DATE: 1999-03-02
; PRIOR APPLICATION NUMBER: US 08/754,490
; PRIOR FILING DATE: 1996-11-20
; NUMBER OF SEQ ID NOS: 30
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 14
; LENGTH: 1177
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Hybrid Delta-Endotoxin
US-09-997-914-14

Query Match 53.8%; Score 3508; DB 11; Length 1177;
Best Local Similarity 57.9%; Pred. No. 8.4e-301;
Matches 721; Conservative 128; Mismatches 305; Indels 92; Gaps 18;

Qy 4 NRKNEEII--NAVSNHSAQMDLLDPDARIEDSLCIAEGNNIDPFVSASTVGTGNIAGRI 61
Db 3 NNPINEICPYNCLSN--PEVEVLGGERIE-----TGYPIDISLSL 42

Qy 62 LGVL---GVPPAGQLASFSYFLVGLWLP--RGDRDOWEIFLEHVEQLINQIQTENARNTALA 117
Db 43 TQFLLESEVPVAG---FVLGLVDIWIIGIFGPSQWDAFLVQIEQLINQRIEFPARNAIS 98

Qy 118 RLOGIGDSFRAYQOQSLDNLNRDADRTRSVLHQTQYIALEIDFNAMPLFAIRNOEVPLL 177
Db 99 RLEGSLNLYQIYAESFREWEADPTNPALREEMRIQFNDMSALITAIPLFAVQNYQVPLL 158

Qy 178 MYAQAAHLHLLDASLGFSEGLTSQETQRYVERQVETRDYSDYCVSEWYNTGNSL 237
Db 159 SVYQAAHLHSLVLDKSVDFGQMGFQDAATNSRINDLTRIGNYDVAWYNTGLERV 218

Qy 238 RGTNAASWVRYNQFRDLTLGLDILVALFPYSDTRTYPTINTSAQLTREVTYDAIGATGVN 297
Db 219 WGPDSRDWVRYNQFRDLTLGLDILVALFPYSDTRTYPTINTSAQLTREVTYDAIGATGVN 270

Qy 298 MASMNWYNNAPSAIEAARSHPLDLFLEQITIFSASSRWSNTRHMYRGHTIQSR 357
Db 271 PVLENFDCGFRGSAQIE-RSIRSPHLMILNSITITDAR-----RGYYWWSGHQIMAS 324

Qy 358 PIGGLNTSTHGATNTSINPV-----TLRFASRDVYRTES-----YAGVLLWGIYLEPIHGPV 410
Db 325 PVGFGSGPEFTPLVGTGMAAPQQRIVAGLQGGVYRTLSSTLYRRPFNIGNNQOLSVID 384

Qy 411 TVRFNFTNPQISDRGTANYOPYESGLQKDSLETLPPTTERPNYESYSHRLSHIGI 470
Db 385 GTEFAYGTSSNLP-----SAVRKSG--TVDSLDEIPQNNVPPRQGFSGHSLHVSVM 435

Qy 471 ILQ-----SRVNVVYSWTHRSADRTNTGPNRITQIPMVXASLELPQGTTVVRGPGFT 523
Db 436 FRSGFSNSSVSIIRAPMFSWTHRSATPNTIDPERITQIPLVKAHTLQSGTTVVRGPGFT 495

Qy 524 GGDILRRNTGGFGPIRTVUNGPLTQRYRIGFRVASTVDFPFVSRGTTVNNFRFLRTM 583
Db 496 GGDILRRNTGGFGPIRTVUNGPLTQRYRIGFRVASTVDFPFVSRGTTVNNFRFLRTM 555

Qy 584 NSGDELKGNFVRRAFTTPTFTQDIIRTSIQGLSGNGEVIQKTEIIPVTATFEAY 643
Db 556 DTGDLPTFQSYATINTAFTIPMSQSFVTGADTFSSGNEVYIDRFELIIPVTATFEAY 615

Qy 644 DLERAEAVNALFTNPNRRLKTDVTDYHIDQVSNLVACLSDFCLEKRELLKVKYAK 703
Db 616 DLERAEAVNALFTNPNRRLKTDVTDYHIDQVSNLVACLSDFCLEKRELLKVKYAK 675

Qy 704 RLSDERNLLQDPNFTSINKQPDFISTNQSNFTSIHQSEHGWGENSENITIQEGNDVPFKE 763
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Db 676 RLSDERNLLQDPNFKGNRQD-----RGWRGSDTITLQRGDDVPKE 717
Qy 764 NYVTLPCTFNECYPTLYLYQKIGESLKAFTRYQYLRGYIEDSQDLEIYLIRYNAKHETLDV 823
Db 718 NYVTLPCTFNECYPTLYLYQKIGESLKAFTRYQYLRGYIEDSQDLEIYLIRYNAKHETVNV 777
Qy 824 PGTESLWPLSVESPIGRGEPNRCAPHFENPDJDCSCROGEKCAHSHHFSLDIDVGCT 883
Db 778 PGTGSLWPLSAQSPIGKCEPNRCAPHLEWNPDLDCSCROGEKCAHSHHFSLDIDVGCT 837
Qy 884 DLHENLGVWVFKIKTQEGHARLGNLFIEBKPLLGALSRVKRAEKWRDKREKLOLET 943
Db 838 DLNEDLGVWVFKIKTQEGHARLGNLFIEBKPLLGALSRVKRAEKWRDKREKLEWET 897
Qy 944 KRVTYEAKEAVDALFVDSQYDRLOADTNIGMIHAADKLVHRIREAYLSELFPVIGVNAEI 1003
Db 898 NIVYKEAKESVDALFVNSQYDQLQADTNIAHAAKRVHSIREAYLPESLVPVIGVNAAI 957
Qy 1004 FEELEGHIIITAILSYDARNVVKNGDFNNGLTCTMNVKGVHDV--QSHHRSRDLVPIPEWEAEV 1062
Db 958 FEELEGRIFTAFSLYDARNVVKNGDFNNGLTCTMNVKGVHDVVEEQNNQORSVLVPEWEAEV 1017
Qy 1063 SOAVRVCPGCGYILRVYAYKEGYGEGCVTTHEIENNTDELKFKNREEEYVPTGTGCTND 1122
Db 1018 SOAVRVCPGCGYILRVYAYKEGYGEGCVTTHEIENNTDELKFKNREEEYVPTGTGCTND 1077
Qy 1123 YTAHQGTAGCADACNSNAGYDAYEYDVTASVNNYKPTYPEETVTVRRDNHCEYDRGYV 1182
Db 1078 YTVNQEEVG--GAYTSNRNGYNEAPSV---PADYASVYEKSYTDGRRENPCFENRGYR 1131
Qy 1183 NYPPVPAGYTKLEYPPETDTVWIEIGETGKPFIVDSVELLLMEE 1228
Db 1132 DYTPLPVGYYTKLEYPPETDKVWIEIGETGTFIVDSVELLLMEE 1177

RESULT 13
US-10-365-645-10
; Sequence 10, Application US/10365645
; Publication No. US20030182682A1
; GENERAL INFORMATION:
; APPLICANT: Malvar, Thomas
; APPLICANT: Gilmer, Amy Jelen
; TITLE OF INVENTION: Antibodies Immunologically Reactive with Broad-Spectrum
; TITLE OF INVENTION: Delta-Endotoxins (Amended)
; FILE REFERENCE: 11792.0210.DVUS02 (MECO:210--3)
; CURRENT APPLICATION NUMBER: US/10/365,645
; CURRENT FILING DATE: 2003-02-12
; PRIOR APPLICATION NUMBER: US 09/873,873
; PRIOR FILING DATE: 2001-06-04
; PRIOR APPLICATION NUMBER: US 09/253,341
; PRIOR FILING DATE: 1999-02-19
; PRIOR APPLICATION NUMBER: US 08/922,505
; PRIOR FILING DATE: 1997-09-03
; PRIOR APPLICATION NUMBER: US 08/754,490
; NUMBER OF SEQ ID NOS: 35
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 10
; LENGTH: 1177
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; OTHER INFORMATION: Hybrid Delta-Endotoxin
US-10-365-645-10

Query Match 53.8%; Score 3508; DB 12; Length 1177;
Best Local Similarity 57.9%; Pred. No. 8.4e-301;
Matches 721; Conservative 128; Mismatches 305; Indels 92; Gaps 18;

Qy 4 NRKNEEII--NAVSNHSAQMDLLDPDARIEDSLCIAEGNNIDPFVSASTVGTGNIAGRI 61
Db 3 NNPINEICPYNCLSN--PEVEVLGGERIE-----TGYPIDISLSL 42
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Qy	62	LGVL---	GVPFAGQLAS	FYSFLV	GELWP-	RGRDQW	EIFL	EHVEQ	LINQOI	TENAR	TALA	117
Db	43	TQELLSEF	PGAG---	FVLGL	VDI	WGI	FGS	QWDA	FLVQ	IEOLIN	QRIE	98
Qy	118	RLQGLG	SFRAYQ	QOOS	LEDW	LEN	RDDA	RTSR	VLUHT	QVIA	LELDF	177
Db	99	RLEGL	NLNYQ	IYAES	PREWEA	DPTN	PALREEM	RIQ	ENDM	N	SALT	158
Qy	178	MVYAQA	NHLHL	LLR	DLAS	LGSE	FGLT	SQEI	QRYE	RYERQ	VERTD	237
Db	159	SVTVQA	NHLHLS	VL	RDVS	VFGQ	RWGD	DA	TINS	RYND	LTRL	218
Qy	238	RG	TNAASW	RYNR	FRD	LT	LGVL	D	VALP	SPSY	DTRTY	297
Db	219	WG	PDSD	WVRY	NQ	FR	EL	TL	VL	D	VALP	270
Qy	298	MAS	MWNN	WNA	PSF	SA	IAE	AA	IR	SP	HL	357
Db	271	PV	LEN	DG	SFR	G	AQ	IE	-	RS	IR	324
Qy	358	PI	GGL	NTS	TH	G	AT	N	T	S	IN	410
Db	325	PV	GS	GE	FT	P	LY	G	T	W	N	384
Qy	411	T	VR	FN	T	P	N	Q	I	S	D	470
Db	385	G	T	E	F	A	G	T	S	N	L	435
Qy	471	I	L	Q	-----	S	R	N	V	P	V	523
Db	436	F	R	S	G	F	S	N	S	S	V	495
Qy	524	G	G	D	I	R	N	T	G	G	F	583
Db	496	G	G	D	I	R	T	S	G	P	A	555
Qy	584	N	S	G	D	E	L	K	Y	G	N	643
Db	556	D	T	G	P	L	T	F	Q	S	F	615
Qy	644	D	L	E	R	A	Q	A	V	N	A	703
Db	616	D	L	E	R	A	Q	A	V	N	A	675
Qy	704	R	L	S	D	E	R	N	L	L	Q	763
Db	676	R	L	S	D	E	R	N	L	L	Q	717
Qy	764	N	Y	V	T	L	P	G	T	N	E	823
Db	718	N	Y	V	T	L	P	G	T	N	E	777
Qy	824	P	G	T	S	L	M	P	L	S	V	883
Db	778	P	G	T	S	L	M	P	L	S	V	837
Qy	884	D	L	H	E	N	L	G	V	V	V	943
Db	838	D	L	N	E	D	L	G	V	V	I	897
Qy	944	K	R	V	T	E	A	K	E	A	V	1003
Db	898	N	I	V	T	E	A	K	E	S	V	957
Qy	1004	F	E	E	L	G	H	I	T	A	I	1062
Db	958	F	E	E	L	G	H	I	T	A	I	1017
Qy	1063	S	O	A	V	R	C	P	G	C	I	1122
Db	1018	S	O	E	V	R	C	P	G	R	G	1077

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Qy 1123 YTHAQGTAGCADACNCRNAGYEDAYEDVTASVNNYKPTVEEETNYTDVRDNNHCEYDRGYV 1188
Db 1078 YTNQBEYG--GAYTSRNRGNAPSV---PADYASVYEEKSYTDGRRENPCFNRGYR 1131
Qy 1183 NYPPVAGVYTKELYFPETDTVWIEIGETGKFIVDSEVELLMEE 1228
Db 1132 DYTPLPGVYTKELYFPETDKWIEIGETGFIVDSEVELLMEE 1177

RESULT 14
US-10-365-645-12
; Sequence 12, Application US/10365645
; Publication NO. US20030182682A1
; GENERAL INFORMATION:
; APPLICANT: Malvar, Thomas
; APPLICANT: Gilmer, Amy Jelen
; TITLE OF INVENTION: Antibodies Immunologically Reactive with Broad-Spectrum
; TITLE OF INVENTION: Delta-Endotoxins (Amended)
; FILE REFERENCE: 11792, 0210.DVUS02 (MECO:210--3)
; CURRENT APPLICATION NUMBER: US/10/365,645
; CURRENT FILING DATE: 2003-02-12
; PRIOR APPLICATION NUMBER: US 09/873,873
; PRIOR FILING DATE: 2001-06-04
; PRIOR APPLICATION NUMBER: US 09/253,341
; PRIOR FILING DATE: 1999-02-19
; PRIOR APPLICATION NUMBER: US 08/922,505
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; PRIOR APPLICATION NUMBER: US 08/754,490
; PRIOR FILING DATE: 1996-11-20
; NUMBER OF SEQ ID NOS: 35
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 12
; LENGTH: 1177
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; OTHER INFORMATION: Hybrid Delta-Endotoxin
US-10-365-645-12

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385 GTEPAYGTSSNLP-----SAVYKSG--TVDSLDEIPQNNVPPRQGFSLSHVSM 435  
 471 ILQ-----SRVNVVSWTHRSADRTNTGPNRITQIPMVKASELPQGTTVVRGPFT 523  
 436 FRSGFNSSVSIIRAPMFSWTHRSATPTNTIDPERITQIPLVKAHTLQSGTTVVRGPFT 495  
 524 GGDILRRNTGGFGPIRVTVNGPLTORVIRGRVASTVDFDFVSRGGTTVNNRFLRTM 583  
 496 GGDILRRNTGGFGPIRVTVNGPLTORVIRGRVASTVDFDFVSRGGTTVNNRFLRTM 555  
 584 NSGDELKYNFVRRAFTPTFTTQIDRIITSIQGLSGNGEVYIDKIEIIPVATFAEAY 643  
 556 DTGDLPTFQFSYATINTAFTFPMSSQSFVGTADTFSSGNEVYIDRFLIPVATFAEAY 615  
 644 DLERAQAVNALFTNTNPRRLKTDVTDYHIDQVSNLVACLSDEFCLDEKRELEKVKYAK 703  
 616 DLERAQAVNALFTSINOIGIKTDVTDYHIDQVSNLVACLSDEFCLDEKRELEKVKYAK 675  
 704 RLSDERNLQDPNFTSINKQPDFISTNEQSNFTSIHQSEHGWSGSENIITQEGNDVPEKE 763  
 676 RLSDERNLQDPNFKINRQD-----RGRGSDTITIQRGDDVPEKE 717  
 764 NYVTLPGTNECYPTLYQKIGSELSKAYTRYQLRGYIEDSQDLEIYLIRYNAKHETLDV 823  
 718 NYVTLPGTNECYPTLYQKIGSELSKAYTRYQLRGYIEDSQDLEIYLIRYNAKHETVNV 777  
 824 PGTESLWPLSVESPIGRCEPNRCAPHFENWPDLDSCRDGCKCAHSHHFLSDIDVGCT 883  
 778 PGTGSLWPLSAQSPITGCKGEPNRCAPHLEWNPDLDCSCRDGCKCAHSHHFLSDIDVGCT 837  
 884 DLHENLGVVWVFKITQSGHARLGNLEFIEKPLGELALSVKRAEKKWRDKREKLOLET 943  
 838 DLNEDLGVVWVFKITQSGHARLGNLEFIEKPLGELALSVKRAEKKWRDKREKLEWET 897  
 944 KRVTYEAKEAVDALFVDQYDRQLQADTNGIGHAADKLVRHIREAYLSLSELPIPGVNAEI 1003  
 898 NIVYKEAKESVDALFVNSQYDQLQADTNGIGHAADKLVRHIREAYLSLSELPIPGVNAEI 957  
 1004 FEELEGHITAITSLDARNVKNQGNFNGNLTGWNVKGHVDV-QQSHHRSDLVPEWEAEV 1062  
 958 FEELEGRITAFSLYDARNVKNQGNFNGNLTGWNVKGHVDV-QQSHHRSDLVPEWEAEV 1017  
 1063 SOARVPCGCGVILRVATYKGYGEGCVTTHIENNTDELKFNKREBEVPTDTGTCND 1122  
 1018 SOEVRVPCGCGVILRVATYKGYGEGCVTTHIENNTDELKFNKREBEVPTDTGTCND 1077  
 1123 YTAHOGTAGCADCACNSNAGYEDAVEVDTTASVNYKPYEBETVTVRRDNHCEVDRGVY 1182  
 1078 YTVNQEEYG--GAYTSRNRGYNAPS-----PADYASVYEEKSYTDGRENPCFENRGYR 1131  
 1183 NYPPVAGYVTKLEYFPETDTWIEIGETEGKFIIVDSVELLMEE 1228  
 1132 DYTPLPVGVYVTKLEYFPETDKWIEIGETEGTFTIVDSVELLMEE 1177

RESULT 15

US-10-365-645-14  
 ; Sequence 14, Application US/10365645  
 ; Publication No. US20030182682A1  
 ; GENERAL INFORMATION:

; APPLICANT: Malvar, Thomas  
 ; APPLICANT: Gilmer, Amy Jelen  
 ; TITLE OF INVENTION: Antibodies Immunologically Reactive with Broad-Spectrum  
 ; TITLE OF INVENTION: Delta-Endotoxins (Amended)  
 ; FILE REFERENCE: 11792.0210.DVUS02 (MECO:210--3)  
 ; CURRENT APPLICATION NUMBER: US/10/365,645  
 ; CURRENT FILING DATE: 2003-02-12  
 ; PRIOR APPLICATION NUMBER: US 09/873,873  
 ; PRIOR FILING DATE: 2001-06-04  
 ; PRIOR APPLICATION NUMBER: US 09/253,341  
 ; PRIOR FILING DATE: 1999-02-19  
 ; PRIOR APPLICATION NUMBER: US 08/922,505  
 ; PRIOR FILING DATE: 1997-09-03

; PRIOR APPLICATION NUMBER: US 08/754,490  
 ; PRIOR FILING DATE: 1996-11-20  
 ; NUMBER OF SEQ ID NOS: 35  
 ; SOFTWARE: Patent in version 3.2  
 ; SEQ ID NO 14  
 ; LENGTH: 1177  
 ; TYPE: PRT  
 ; ORGANISM: Artificial  
 ; FEATURE:  
 ; OTHER INFORMATION: Hybrid Delta-Endotoxin  
 US-10-365-645-14

Query Match 53.8%; Score 3508; DB 12; Length 1177;

Best Local Similarity 57.9%; Pred. No. 8.4e-301;  
 Matches 721; Conservative 128; Mismatches 305; Indels 92; Gaps 18;

QY 4 NRKNENII--NAVSNHSAQMDLLDPADRIEDSLCIAEGNNIDPFVSASTVOTGINIAGRI 61  
 DB 3 NNPNINECIPYCNLSN--PEVEVLGGERIE-----TGTPDIDISLSL 42  
 QY 62 LGVL---GVPPAGQLASFYSLVGLWLP--RGRDQWEIIFLEHVEQLINOITENARNTALA 117  
 DB 43 TOFLLSFVPCAG---FVLGLVDIIMGIFGSPQWDAFLVQIEQLINQRIEFAFNQOIS 98  
 QY 118 RLQGLGDSFRAYQOSLEDWLENRDDARTSRVLHTQYIALELDFLNAPLFAIRNQEVPLL 177  
 DB 99 RLEGSLNYQIYAESPREWEADPTNPALREEMRIQFNDMNSALTTPALFPAVQYQVPLL 158  
 QY 178 MYVAAQANLHLLLRDASLFGSEFGLTSQETORYYERQVTRDYSDYCVSEWYNTGNSL 237  
 DB 159 SVYVQAANLHLSURDVSFQGRWGFDAATINSYNDLTRIGNYTDYAVRWYNTGLERV 218  
 QY 238 RGTNAASWRYNQPRRLTLGLVDLVALFPSSYDTRTPYINTSAQLTREVYDAIGATGVN 297  
 DB 219 WGPDSRDWRYNQPRRLTLGLVDLVALFPSSYDTRTPYINTSAQLTREVYDAIGATGVN 270  
 QY 298 MASNNWNNNAPSATEAAAIRSPHLLDFLEQITFSASSRWNTHRMTVWRGHTIQSR 357  
 DB 271 PVLENFDGSPRGSQAQIE-RSIRSPHLMIDILNSTITVTDH-----RGYVWSGHQIMAS 324  
 QY 358 PIGGLTSTHGATNTSINPV---TLRFASRDVYRTES---YAGVLLMGLVLPFHGVP 410  
 DB 325 PVGSGGPEFTPLVGTWGNAAPOQRIVAQLGCGVYRTLSSTLYRRPNIGINNQLSVLD 384  
 QY 411 TVRFNFTNPQISDRGTANTYSPYESGLQKQDSELTBPPTTERPNERPNYESYSHLSHIGI 470  
 DB 385 GTEPAYGTSSNLP-----SAVYKSG--TVDSLDEIPQNNVPPRQGFSLSHVSM 435  
 QY 471 ILQ-----SRVNVVSWTHRSADRTNTGPNRITQIPMVKASELPQGTTVVRGPFT 523  
 DB 436 FRSGFNSSVSIIRAPMFSWTHRSATPTNTIDPERITQIPLVKAHTLQSGTTVVRGPFT 495  
 QY 524 GGDILRRNTGGFGPIRVTVNGPLTORVIRGRVASTVDFDFVSRGGTTVNNRFLRTM 583  
 DB 496 GGDILRRNTGGFGPIRVTVNGPLTORVIRGRVASTVDFDFVSRGGTTVNNRFLRTM 555  
 QY 584 NSGDELKYNFVRRAFTPTFTTQIDRIITSIQGLSGNGEVYIDKIEIIPVATFAEAY 643  
 DB 556 DTGDLPTFQFSYATINTAFTFPMSSQSFVGTADTFSSGNEVYIDRFLIPVATFAEAY 615  
 QY 644 DLERAQAVNALFTNTNPRRLKTDVTDYHIDQVSNLVACLSDEFCLDEKRELEKVKYAK 703  
 DB 616 DLERAQAVNALFTSINOIGIKTDVTDYHIDQVSNLVACLSDEFCLDEKRELEKVKYAK 675  
 QY 704 RLSDERNLQDPNFTSINKQPDFISTNEQSNFTSIHQSEHGWSGSENIITQEGNDVPEKE 763  
 DB 676 RLSDERNLQDPNFKINRQD-----RGRGSDTITIQRGDDVPEKE 717  
 QY 764 NYVTLPGTNECYPTLYQKIGSELSKAYTRYQLRGYIEDSQDLEIYLIRYNAKHETLDV 823  
 DB 718 NYVTLPGTNECYPTLYQKIGSELSKAYTRYQLRGYIEDSQDLEIYLIRYNAKHETVNV 777  
 QY 824 PGTESLWPLSVESPIGRCEPNRCAPHFENWPDLDSCRDGCKCAHSHHFLSDIDVGCT 883



778	Db	PGTSLWPLSAQSPIGKCGEPNRCAPHLEWNPOLDSCRDEKCAEHSHHFLSDIDVGCT	837
884	Qy	DLHENLGVWVVFYKTCQEGHARLGNLEFTEEKPLLGEALSVRKRAEKKWRDKREKLQLET	943
838	Db	DLNEDLGVWVVFYKTCQDGHARLGNLEFUEBEKPLVGEALRJVRKRAEKKWRDKREKLEWET	897
944	Qy	KRVYTAKEAVALDFVDSQYDRLOQADTNIGMIAHAADKLVHRIEAYLSELSPVPGVNAEI	1003
898	Db	NIYVKEAKESVDALFVNSQYDQLOQADTNIAIHAAKRVHSHIEAYLPELSVPGVNAAI	957
1004	Qy	FEELGHHITAFSLYDARNVKNQDFNGLTCKWNVKGVHDV-QQSHHRSDLVPIPEAEAV	1062
958	Db	FEELGEGITAFSLYDARNVKNQDFNGLSCWNVKGVHDVVEQNNQORSVLVVPPEAEAV	1017
1063	Qy	SQAVRVCPCGGYILRVTAAYKEGYEGECVTTHIEINNTDELKFKORBEVEEYPTDTCND	1122
1018	Db	SQAVRVCPCGGYILRVTAAYKEGYEGECVTTHIEINNTDELKFCNCVEEEIYPNNTVTCND	1077
1123	Qy	YTAHQGTAGCADACNSRNAGYEDAYEVDTTASVNYKPTVEEETVDVRRRNHHCHEYDRGYV	1182
1078	Db	YTVNQEEYG--GAYTSRNRGYNEAPS- ---PADYASVYEKSYTDCRRNCPCEFNRGYR	1131
1183	Qy	NYPPVPAGYVTKLEYFPETDVTWVIEIGETEGKFIVDSVELLLMEE	1228
1132	Db	DYTPLPVGYVTKLEYFPETDKVWIEIGETEGTIVDSVELLLMEE	1177

Search completed: December 10, 2003, 18:21:41  
Job time : 63 secs